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THE JOHN CRERAR MAY 4 1928

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1st in Convenience

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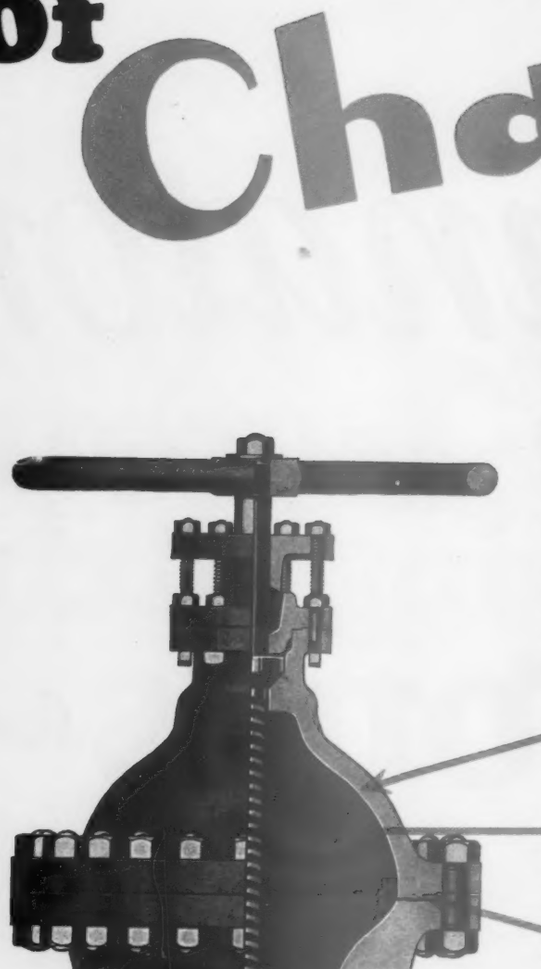

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Next Two Weeks an Important Period

Highest daily average estimated total production in 1927, week ended July 30, 2,587,105 bbls. Lowest in 1927, Jan. 22, 2,360,780 bbls.

Effectiveness of Hendricks Proration and Continuance of South Little River Pool Drilling Agreement Big Factors

By Andrew M. Rowley

Highest daily average estimated light oil production in 1927, week ended July 30, 2,102,385 bbls. Lowest in 1927, Jan. 1, 1,790,720 bbls.

Developments during the next two weeks will wield a great influence on the general situation affecting the petroleum industry and the crude oil price structure. Within that time the industry will have had an opportunity to gauge the effectiveness of proration in the Hendricks Pool, Winkler County, Texas and it is expected a definite decision will have been reached as to a continuance of the drilling curtailment plan in the South Little River Pool of the greater Seminole area in Oklahoma. Wells completed in that pool and pinched in under the present agreement indicate a production of at least 100,000 barrels daily could be developed within possibly 90 days if unrestricted drilling were permitted.

Consumption is registering a greater than normal increase, according to the latest reports available, and this condition is expected to be emphasized this month. The demand for crude is making itself felt in different areas, reports of premiums being offered in the Texas Panhandle being an example while there is little "free" oil, or crude available for purchase, in the Seminole area of Oklahoma or in other of the major fields in that State.

Proration of the Hendricks Pool output will have a big psychological effect and will be reflected in the production column for the entire country although as much crude as the pipe lines and tank cars can handle will reach the markets as in the past. The encroachment of water in this pool is spreading to areas heretofore unaffected.

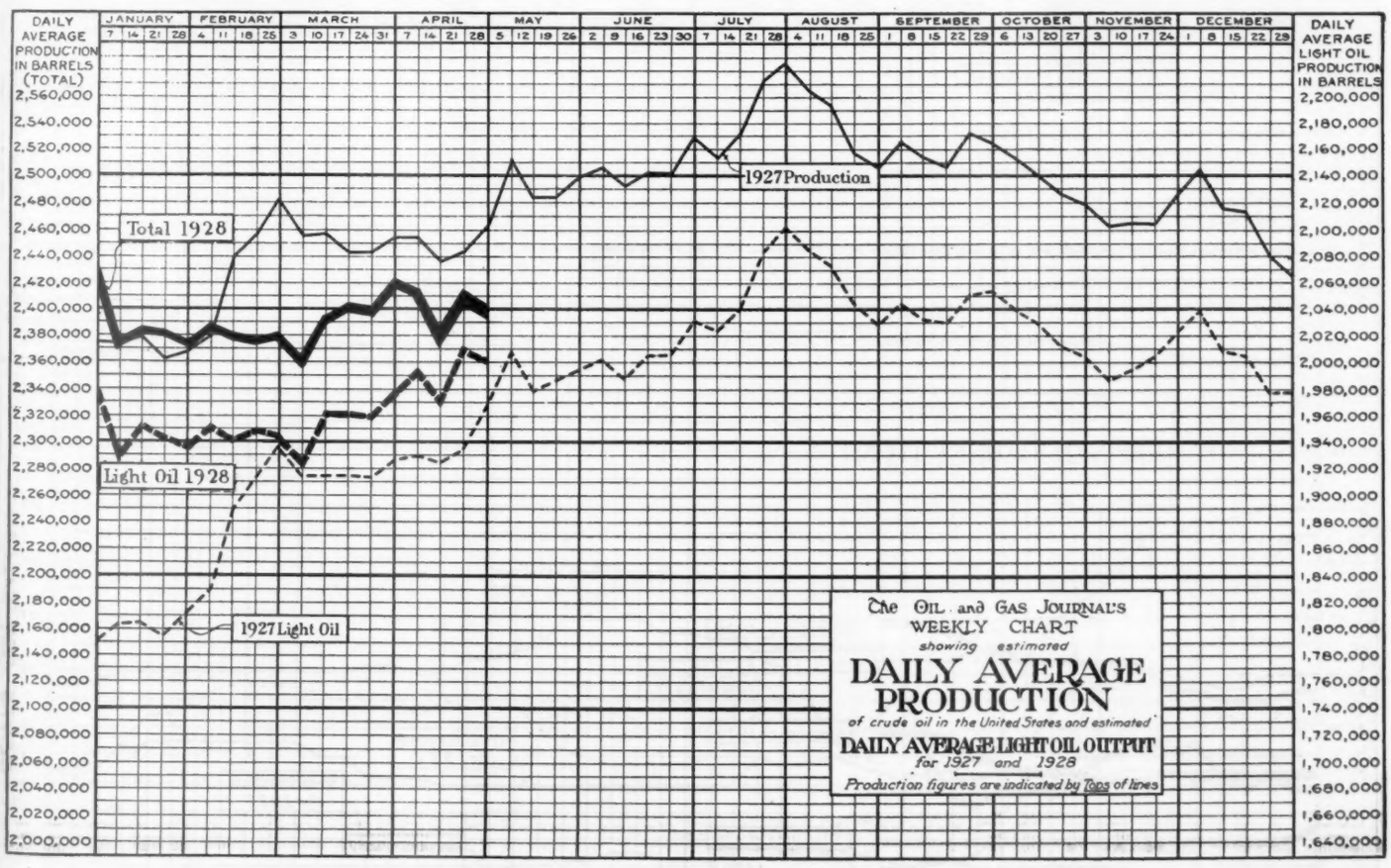
It is almost a certainty the major companies will feel they cannot afford to take oil out of storage at present prices. When drafts on stocks assume a substantial figure, there is only thing that can happen—crude prices will be advanced. Good motoring weather throughout the country will hasten that time.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended April 28, and a comparison with the previous week follows:

	April 28		April 21	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	14,240	.....	14,490	.....
Burbank	36,630	.....	37,735	.....
Other Osage Fields	28,890	.....	29,985	.....
Cushing and Shamrock	20,315	.....	20,895	.....
Bristow	23,910	.....	24,280	.....
Seminole	273,595	.....	280,410	.....
Northern Miscellaneous	153,110	.....	153,745	.....
Southern Fields	58,730	.....	58,690	.....
Total Oklahoma	609,420	.....	620,230	.....
West Texas—				
Hendricks	215,632	.....	217,351	.....
Yates	51,800	.....	50,521	.....
Remainder	104,392	.....	105,369	.....
Total West Texas	371,824	.....	373,241	.....
North Louisiana	39,170	7,310	40,385	7,350
Arkansas	20,550	57,945	21,430	63,780
North Central Texas	133,049	.....	132,514	.....
Texas Panhandle	69,615	.....	69,240	.....
East Central Texas	23,237	.....	23,318	.....
Kansas	110,945	.....	111,115	.....
Total Mid-Continent Area	1,377,810	65,255	1,391,473	71,130
Gulf Coast	.....	125,421	.....	119,920
Southwest Texas	.....	26,606	.....	26,589
Eastern	106,500	.....	105,500	.....
Rocky Mountain Area	81,105	.....	79,560	.....
California—				
Santa Fe Springs	37,000	.....	37,250	.....
Long Beach	169,500	.....	160,000	.....
Torrance	2,000	16,500	2,000	16,500
Huntington Beach	55,500	.....	55,500	.....
Dominguez	12,250	.....	12,250	.....
Inglewood	18,000	11,500	18,000	11,500
Ventura Avenue	50,000	.....	51,000	.....
Seal Beach	39,250	.....	39,250	.....
Remainder of State	60,000	150,250	60,000	154,500
Total California	443,500	178,250	435,250	182,500
Total United States	2,008,915	395,532	2,011,783	400,139
Grand Total		2,404,447		2,411,922

→ **Total Decrease 7,475 Bbls.; Light Oil Decrease 2,868 Bbls.** ←



Refinery Gasoline Higher in Group 3

U. S. Motor Grade Advances to 7 Cents. Natural Gasolines and Fuel Oil Prices Lower. Kerosene Steady

By W. T. Ziegenhain

The strength of the general Oklahoma refined oil market was indicated in its ability to establish a 7-cent price for 58-60 gasoline by the close of the week in face of a slight lull in the number of orders received during the last few days. Natural gasolines did not continue their advance which has overshadowed all other price advances made in the various products over the last month. Instead, they settled to prices from one-quarter to one-half cent below those of last week. Kerosene showed little change either in price or demand but several export inquiries have been received and promise to force prices fractionally higher. There is a rather free offering of all grades of kerosene at the present prices and the domestic demand is doing no more than supporting the present spot prices.

Fuel oils, especially the lower gravity fuels, weakened, and while there is a wide range of prices being quoted by refiners, the material that is moving out of Oklahoma is forced to meet the competition offered by the West Texas refiners, and prices on this material are considerably under those refiners were able to get a month ago. Gas oil continues to show but little change in price or demand, but some material is being bought by refiners, indicating they have more than increased their cracking operations in proportion to their refinery production.

Lubricants are gradually finding a greater demand, and through the elimination of price concessions the price structure is being brought to a position to support a general price advance; but this is not expected immediately.

REFINED MARKET BAROMETER

The general refined oil market continued to strengthen in all refining centers and there is likelihood of prices on gasoline, kerosene, lubricating oils and wax going still higher in the immediate future. Consumption of gasoline is increasing satisfactorily and shipments from refineries are above normal as jobbers accumulate a margin of stocks. This practice further indicates their acceptance of the idea that prices will continue to advance. Natural gasoline had a slight setback in the Mid-Continent due to the falling off in the refinery demand at the close of April, but manufacturers are confident higher prices will be supported over the first half of May. Large volumes of West Texas and Venezuelan crudes are being refined on the Atlantic seaboard, causing a high production of fuel oil, but a satisfactory balance between supply and demand has been struck so that prices remain firm. Lubricants are in a better position to take a general advance. Wax prices were stronger both in Pennsylvania and in the Mid-Continent.

Atlantic Seaboard—The predicted 10-cent U. S. Motor gasoline price in domestic shipments came nearer to being realized during May as another one-fourth cent advance was posted the past week, the new price being 9¾ cents. Kerosene, lubricants and wax also advanced with fuel oil prices holding firm despite a large production.

Mid-Continent—Gasoline and wax showed additional strength, while kerosene and lubricants strengthened their position for a possible advance in the near future. Natural gasolines witnessed a recession of prices at the close of the month, but an advance is expected over the first half of May.

Chicago—The demand for gasoline slackened somewhat at the close of the month but prices were firm at a higher level. The future of fuel oil prices was viewed with uncertainty as more spot material became available.

Gulf Coast—There was no material change in prices. There was an improved export demand for lubricants, but prices were not advanced. Fuel oil is more stable in price.

California—There is a freer offering of spot gasoline but there is no tendency to give price concessions to move it. Refiners are finding resistance in moving their fuel production at the general market, but prefer to store to selling at a price concession.

Wax Market

Wax showed much more activity than during any previous week this year and prices were advanced with ample support given the market at these its higher level. Refiners point to the good statistical position of the wax market with respect to relatively low stocks, a greatly increased domestic demand and the increased runs of asphalt base or semiasphalt base crudes at refineries which do not yield wax. Over the year they expect wax prices to gradually strengthen until they are considerably above their present level.

As Mid-Continent refiners increase the proportion of West Texas, Panhandle and Seminole crudes and run less Burbank, Cushing and Kansas crudes there will be a tendency for less wax to be made and while the addition of refinery equipment could easily offset in effect the change in the wax production the crude may exert, refiners will demand higher prices first.

Where will gasoline prices go before they stop, and, when will we see 7½-cent gasoline, are questions that are asked daily now and as inquiries for export material and large domestic shipments are received there is a quite perceptible hesitancy on the part of many sales managers to accept the material over the future, even at the top prices now existing on the spot market. The belief that gasoline prices may go still higher without the support of a crude advance or a general tank wagon advance is based entirely upon the fact that prices have not yet recovered sufficiently to fully cover all refining and sales expenses and pay a fair return on the investment.

Refinery Margin

While there is no question the refinery margins have been materially increased over the first four months of the year, last year's experiences cannot be taken

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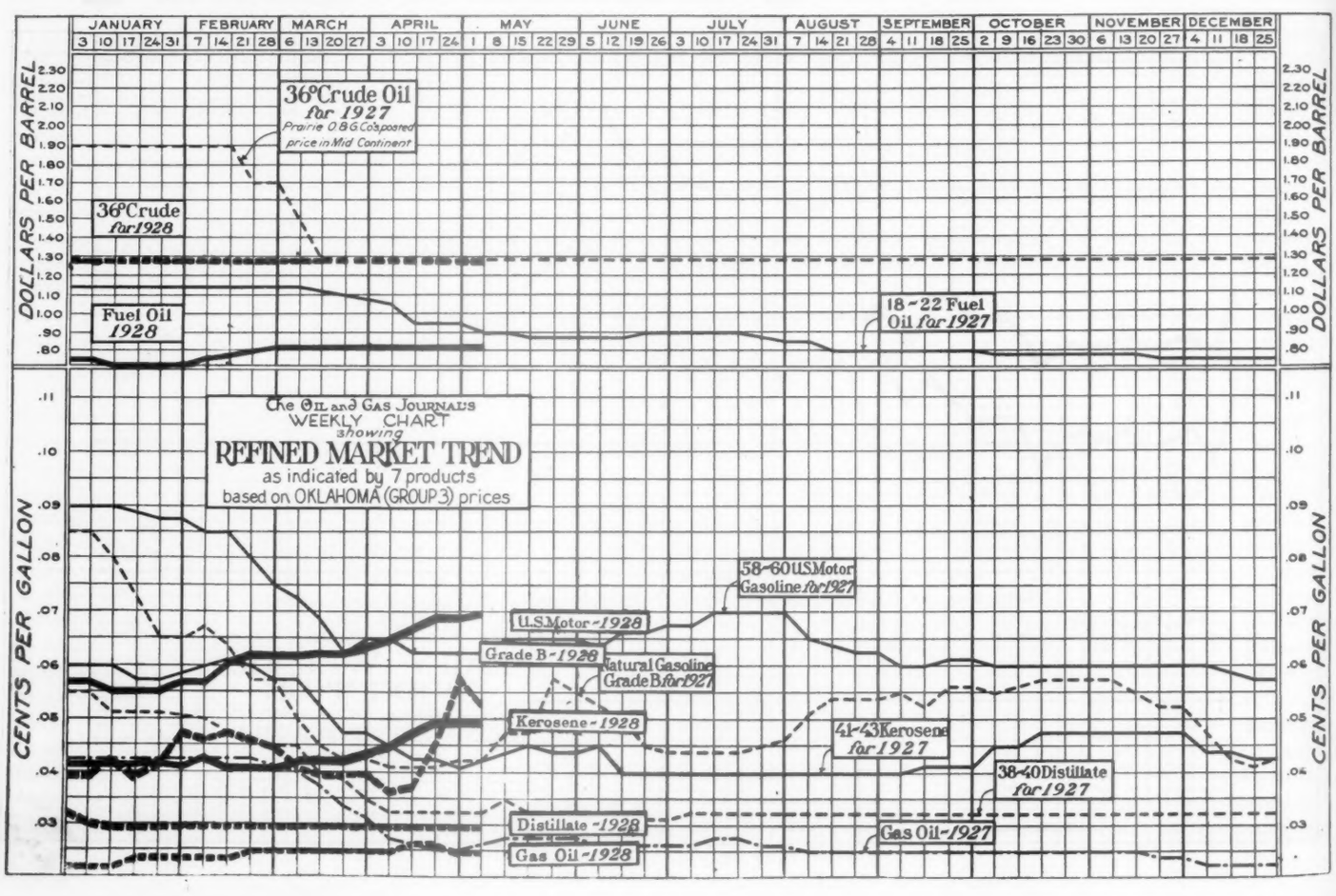

Gas Convention to Attract Big Crowd

Leaders Throughout the Country Will Attend Dallas Meeting Next Week. Old-Time Enthusiasm Much in Evidence

By Andrew M. Rowley

When amalgamation of the Natural Gas Association of America with the American Gas Association was ratified at the convention of the former organization in Cincinnati last year, a number of prominent members of the natural gas association remarked, "Well, I guess this is our last big convention. The fellows probably won't feel the same interest if a convention of this department is held next year. This merger probably will take away the personal interest and it will be hard to get the old crowd together again."

Everyone seemed to favor the merger, realizing it was for the best interests both of the natural gas industry and the artificial gas business, represented by the American Gas Association—and be it said for men in the natural gas business,

N. C. MCGOWEN
Chairman Natural Gas Department, American Gas Association

the welfare of that business and the people it serves comes first, personal feelings being subjugated to what is deemed best for service—but there was a note akin to tragedy evident as the last convention of the Natural Gas Association of America was ended.

When it is considered many of these men had gathered together for 23 years; had swapped experiences; renewed friendships; discussed old times; and really got together just once a year at these conventions, it made a person wonder if the technical and material advantages to the industry at large would offset the breaking of these close ties of friendship and good fellowship. Friendship is the greatest thing in life and many years of these annual gatherings had brought the gas men of Pittsburgh in close association with those of Tulsa, Dallas and other places of the West.

Same Old Organization

But those who fostered the merger of the two organizations builded better than many had thought. The Natural Gas Association of America is an integral part of the American Gas Association; it is the same old organization with the same leaders in charge; and the first annual convention of the Natural Gas Department of the American Gas Association is in reality just the twenty-fourth annual convention of the Natural Gas Association of America.

This convention, to be held in Dallas, Tex., next week, starting Monday and continuing through Thursday, will forever dissipate any feeling that the old crowd can't be brought together again. All indications now point to a record convention and the Natural Gas Association of America has held some big meetings. It seems that every natural gas man you talk to is going to the convention while all the members of the former Natural Gas Supply Men, Inc. either have taken space for exhibits or are kicking themselves if they failed to make reservations.

Many gas men who have checked up on who are going to the convention and what firms will have exhibits express amazement at the big number and predict a greater convention and bigger gathering than ever. It is estimated conservatively more than 1,000 natural gas company executives and heads of departments and officials of natural gas equipment companies will attend the Dallas meeting. Already approximately 150 firms have taken space in the exhibit hall.

Consider that and then decide whether you are likely to meet John Corrin, George Ratcliffe, Sam Meals, Arch Leonard, Christy Payne, Tom Weymouth, Howell Cooper, Ralph Gallagher, A. W. Robertson, Joe Creveling, John Garard, Larmour Adams, Johnny Diehl, Art Thompson, Burt Bay, Alfred Hurlburt, John Tonkin, Harry Hoover, Billy Judge, Lawrence Langdon, Jim Morgan and all the rest of the bunch who have made all other gas conventions the big event of the year.

The convention in Dallas next week will bring together natural gas company executives from every section of the United States. Probably never before in the history of the industry has there been so much expansion, extension of lines and general growth as during the past year, and negotiations now in progress in widely separated areas indicate this growth will be continued during this year. Large cities and towns which have never enjoyed the benefits of natural gas are endeavoring to procure this "wonder fuel of Nature" with good prospects the natural gas men will see their way clear to supply this demand.

Natural gas from the great Panhandle of Texas is being carried into cities in Kansas and this summer will permit cities in Colorado to enjoy natural gas

SAMUEL W. MEALS
Elected last year Vice President of Natural Gas Association of America

service for the first time. St. Louis, Memphis, and other towns are casting longing eyes towards the big natural gas reserves of the Monroe district in Louisiana and New Orleans is ready to start service with gas from that same section. It is a big year for the natural gas industry and a continuance of this condition is indicated.

The convention in Dallas will reflect this condition and will bring to the attention of natural gas company executives and officials the many improvements in equipment and practices tending to eliminate whatever waste might have been experienced in the past and to further improve service.

The program for the Dallas meeting could hardly be improved. It will cover every phase of the natural gas industry and there will be something of vital importance and especial interest for every man who attends the convention, regardless of his position or duties in the industry. Frank Chase has been active in arranging the convention. Nuf ced.

Dallas is a wonderful town. It is one of the greatest cities in the United States. It will cause many of the natural gas men from back east to open their eyes at its progress. If you can drive to the convention, do so. Roads throughout the entire Southwest are in good condition and most of the main highways are of concrete or surfaced. Help the oil industry along by taking your automobile and making the trip in that way. You will be repaid by the intimate view you will get of "God's Country."

PROGRAM

Annual Meeting of Natural Gas Department, Dallas, Tex., May 7-10

Monday, May 7

9:00 AM Opening of Exhibition of Appliances and Apparatus, Manufacturers' Building, Texas Fair Grounds.

10:30 AM Meeting of main Technical and Research Committee and subcommittees, Room 629, Hotel Adolphus.

4:30 PM Meeting of the Managing and Advisory Committee, Natural Gas Department, Room 630, Hotel Adolphus.

6:30 PM Annual dinner, Managing and Advisory Committee, Natural Gas Department, English Room, Hotel Adolphus.

Tuesday, May 8

10:00 AM Annual meeting, Natural Gas Department, Auditorium, Texas Fair Grounds.
Call to order—N. C. McGowen, chairman Natural Gas Department.
Invocation—The Very Reverend Robert S. Chalmers, Dean of St. Matthews Cathedral, Dallas.
Address of welcome—R. E. Burt, mayor of Dallas.
Response—Christy Payne, East Ohio Gas Co.
Address of chairman—N. C. McGowen, the Palmer Corp., Shreveport, La.
Appointment of Committee on Chairman's Address—S. W. Meals, vice chairman Natural Gas Department.
Report—Memorials Committee, R. C. Sharp, Oklahoma Natural Gas Corp., Tulsa.
Address—O. H. Fogg, president American Gas Association.
Paper: "The History and Development Problems of the Natural Gas Industry in California"—Harrison P. George, Southern California Gas Co., Los Angeles, Calif.
Address—Alexander Forward, managing director American Gas Association.
Paper: "Improving the Use of Natural Gas"—R. M. Conner, director American Gas Association Gas Appliance Testing Laboratory.

2:00 PM Report, Wrinkle Committee—H. J. Struth, chairman.
Paper: "Employe Performance in the Natural Gas Business"—R. W. Hendee, Oklahoma Natural Gas Corp., Tulsa, Okla.
Paper: "Why a Gas Company Should Merchandise and How"—T. L. Phillips, Union Gas & Electric Co., Cincinnati, Ohio.
Informal addresses.

Wednesday, May 9

10:00 AM Paper: "Limiting Factors for Natural Gas Projects"—P. McD. Biddison, Gas Producing Co. of Louisiana, Bastrop, La
Paper: "Pipe Corrosion and Protection"—W. G. Hagan, East Ohio Gas Co., Cleveland, Ohio.
Question discussion.
The remainder of the day will be devoted to the discussion of questions with J. D. Creveling, of Henry L. Doherty & Co., New York, N. Y., acting as chairman. Among the subjects to be discussed are: "Customer ownership," "What in your opinion is the best pipe joint for belt lines and low pressure lines in a city distribution system" and "Human values in the gas business."

2:00 PM Resumption of question discussion.

Thursday, May 10

10:00 AM Paper: "Gas Sands in South Texas"—J. B. Best, Houston Pipe Line Co., Houston, Tex.
Paper: "Increasing Use of Natural Gas for Oil Recovery and Its Economic Effect on the Natural Gas Industry"—E. O. Bennett, Marland Oil Co., Fort Worth, Tex.
Reports:
Main Technical and Research Committee—H. C. Cooper, chairman.
Gas Measurement Committee—F. W. Towl, chairman.
Pipe Line Flow Committee—H. D. Hancock, chairman.
Reports:
Committee on Chairman's Address.
Committee on Place of Meeting.
Committee on Nominations.
Election of Department Officers and Managing Committee.
Report—Committee on Final Resolutions.
Adjournment.

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Proration Planned for Howard County

Operators Called Into Conference by Texas Railroad Commission. Prompt Action Necessary

By James H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Apr. 28.—With the threatening influence of Hendricks in Winkler County and Yates in Pecos County blanketed by proration orders that will hold these two great areas down to 201,000 bbls. daily, the Texas Railroad Commission took the preparatory steps today to forestall any serious overproduction menace arising in Howard County. Yates has been under a proration order for months and April 24 the Texas Railroad Commission issued an order that will limit the production of Hendricks to 150,000 bbls. The production limitation was erroneously reported last week to be 160,000 bbls. daily. The Hendricks order will be effective May 5 and will continue for six months. Harold N. Pardee, Cisco, Tex., was selected as umpire for the field. He will be an agent of the railroad commission. Yates, under the revised figures effective May 1, will be permitted to produce 51,500 bbls. daily.

Howard County operators met in Fort Worth today following a call by the railroad commission. The operators in that area selected an advisory committee to make a study of the situation in Howard County and report back to the railroad commission with its recommendations.

Hendricks is to be prorated under an order based on a combination of proven acreage and potential production. Mr. Pardee has been in the field since last Friday familiarizing himself with conditions there. The advisory committee will meet in the field Tuesday with Mr. Pardee and start preparing the proration machinery in order that it may be in motion by the morning of May 5.

The naming of the 40-acre producing units in the field will obviously be an easy matter but the method of arriving at the potential production of a number of the wells will be one of the knots for the umpire, his staff and the advisory committee to untie. It is estimated that around 75¾ 40-acre units will share in the proration.

To Eliminate Rule 2

A recommendation has been made to the railroad commission by the advisory committee to eliminate Rule 2 of the proration order. This order has been left open on the commission's docket in the event a change or an addition is deemed necessary.

Rule 2 requires the purchasers of crude to nominate to the railroad commission semimonthly the amount of crude they will purchase currently. The advisory committee believes the rule to be unnecessary and would probably result in less than 150,000 bbls. being run from the field. Several of the pipe lines from the field have been built to care for the production of the company building the line and they do not desire to run any other than their own oil. In addition many are of the opinion that it will not be necessary for the companies to nominate their current crude purchases. Around 200,000 bbls. is being pumped from the field daily at the present time.

Rule 5 of the commission's order permits the producer to store his allowed production. The suggested change in the rule is subject to the approval of the railroad commission.

To Put Yates Under Commission

Plans are under way at the present time to bring Yates under a railroad commission proration order similar to the Hendricks Field order when the Yates plan terminates June 1. During a meeting held in Fort Worth, April 26, it was suggested Yates be prorated under a plan whereby 50 per cent of the outlet would be apportioned on a proven acreage basis and the remaining 50 per cent on the basis of potential production.

A larger unit than 40 acres will no doubt be used because 40-acre units would result in the drilling of approximately 250 more wells under the present figure of proven acreage which totals 14,119 acres. By using 80-acre units this number would be split in half. Bringing the Yates proration under a railroad commission order is desirable to most of the operators.

Each company operating in Yates is to submit to J. Elmer Thomas, consulting geologist employed by the Yates Field operators, a map showing that company's acreage divided in 40, 80 and 160-acre tracts. Mr. Thomas will make a study of the maps and work out a plan for the consideration of the operators. It is planned to have this proration plan ready for adoption at the expiration of the present plan June 1.

The following are the new and old percentages of allowed production for the various producers in the Yates Field. The new percentages were adopted at the meeting held last Thursday in Fort Worth.

Company—	Percentage Apr. 1	Percentage May 1	Bbls. Dly.
Mid-Kansas & Transcontinental ..	35.05	33.60	17,304
California Co.	15.09	14.47	7,453
Gulf Prod. Co.	12.68	12.16	6,262
Roxana Pet. Corp...	9.18	8.80	4,532
Humble O. & R. Co...	7.12	6.82	3,512
Marland & McMan..	8.00	7.67	3,950
Marland Prod. Co. ..	2.00	1.92	989
McMan O. & G. Co. ..	1.00	6.00	3,090
Simms Oil Co.	6.00	6.00	3,090
Red Bank Oil Co. ..	1.00	1.00	515
Savoy-Mazda	.60	.60	309
Kirby-Edson	.60	.34	175
Pandem-Gibson (Oil Operators Trust)..	.76	....	....
Phillips Pet. Co. ...	.29	.19	100
Skelly Oil Co.	.50	.30	153
Kirby Pet. Co.	.13	.13	67
	100.00	100.00	51,500

Howard Advisory Committee

The Howard County Advisory Committee is headed by Robert T. Piner, Big Spring banker and representative of Mrs. Dora Roberts, principal royalty holder in the Howard County area. The other members of the committee are I. G. Harmon, Marland company, Ponca City, Okla.; William Fleming, F-H-E Oil Co., Sherman, Tex.; G. C. Matson, Schermerhorn Oil Co., Tulsa, and Frank T. Pickrell, Fort Worth, Tex., Texon Oil & Land Co.

Text of Call

The text of the railroad commission's call for appearance at the meeting held Saturday follows:

"This conference was called by the commission on its own motion. At a recent hearing at Austin in the Winkler County Field it was suggested that Settles Pool should be controlled by the commission and the same suggestion has come from other sources. We are told that the Chalk and Settles area bids fair to be as large as productive and as likely to present a case for active control under proration as the Winkler County Field.

"Voluntary shut in now with the understanding that there will be:

"1. No new wells drilled except as required by offsets.

"2. All wells now drilling will be completed but will be shut in after completion.

"3. All completed producing wells will remain shut in.

"There is no disposition on the part of the commission to disturb that arrangement or to act in any way to deal with the production in Howard County fields except in the ordinary way now prevailing under our general conservation rules unless the field is opened up to reckless competitive drilling which will undoubtedly be the case if the present arrangement is not maintained. The commission does not desire to be forced into an aggressive attitude in the Chalk and Settles Fields, or in any of the Texas oil fields, but it is now its intention to, if necessary, act aggressively in any case where it appears conditions bid fair to become as acute as they are in Winkler County and to act promptly. The commission's action, though somewhat delayed, in the case of Winkler County fields was amply justified and it seems the better part of discretion to act in the case of Chalk and Settles Fields promptly and in a preventive way if need be."

Discussion of Problem

Prior to the naming of the advisory committee A. S. Hardwicke, Magnolia Petroleum Co., Dallas, contended no action was necessary. He pointed out the deep producers in the Roberts Field were all shut in and would probably remain so for some time. Mr. Hardwicke denied the Magnolia company had agreed with other operators in the field to shut in wells. Such action, he said, was individual action. He declared the Magnolia company had not and would not enter into any agreement which would be in subvention of the state antitrust laws but that his company would be inclined to obey any reasonable order of the commission.

Mr. Pickrell did not agree with Mr. Hardwicke in his contention that no proration action is necessary for Howard County. Unless some action is taken at this time, he contended, Howard County will likely prove a repetition of the Winkler County situation. Mr. Harmon of the Marland company and others were of the opinion that action was necessary. Most of the operators were of the opinion a proration order should be issued by the railroad commission.

Howard County is more or less held back at the present because of inadequate pipe line outlet. W. M. Priddy, Wichita Falls, said he represented interests that were considering the construction of a 6-inch line from the field to a refinery

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UMPIRE IN THE HENDRICKS FIELD ROSE FROM RANKS OF INDUSTRY

Harold N. Pardee, Cisco, Tex., appointed umpire of proration in Hendricks Field, Winkler County, Texas, came up from the ranks and is well known to the industry in Texas.

HAROLD N. PARDEE

Mr. Pardee was born in the oil country, so to speak, having been born in Butler, Pa., May 1, 1891. In 1907 he moved with his parents to California. His contact with the oil business does not date back to the time he was gaining an education in Pennsylvania. Prior to his leaving California he worked for the Standard Oil Co. of California.

In 1912 he came to Texas and started working for the old Producers Oil Co. as a tooldresser. A short while later he was a driller. His crew was the one which drilled the first wildcat in Stephens County when in the fall of 1916 that crew started drilling Parks No. 1, which opened that county. The nearest supply house at that time was in Electra, Texas.

During December, 1918, he was employed by the Humble Oil & Refining Co. as field superintendent in the Desdemona Field. Two years later he was placed in charge of the Humble Co.'s Breckenridge district operations and was running 47 strings of tools. Later he was made division superintendent for the Humble Co. in North Central Texas.

At the opening of 1925 Mr. Pardee resigned from the Humble Co. and was made general manager of the Landreth Production Corp. During the time he was with the Landreth Corp. that organization developed its Wichita Falls district properties which were later sold to the Phillips Petroleum Co. In April, 1926, Mr. Pardee resigned from the Landreth Corp. and entered business for himself. Since that time he has been an independent operator.

He was selected as umpire for Hendricks April 25 and left for the field the following day to familiarize himself with his new duties.

New Production Engineering Division

Texas, Louisiana and Arkansas Meeting at Fort Worth Completes Final Sectional Organization

By James H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Apr. 28.—Attendance at the organization meeting of the Texas, Louisiana and Arkansas district members of the American Petroleum Institute Division of Development and Production Engineering, held at Fort Worth April 25, was far above anticipations and the meeting itself heartily supported.

The morning session was devoted to the election of exofficio officers and committeemen and to the addresses of those explaining the aims and purposes of the organization.

C. A. Young of the American Petroleum Institute offices in Dallas outlined the details of the organization work to the 110 in attendance. John R. Suman, of the Humble Oil & Refining Co. at Houston, also made an address stressing the importance of support to the district organization.

A particular effort will be made to bring into the membership rolls field superintendents, foremen, etc. Technical lines will not be drawn closely and the men fresh from practical experience will exchange views with engineers. It is planned to make each meeting a forum for the discussion of field problems and of general benefit to the entire membership.

The program committee will seek the co-operation of all members in working up programs embracing the major problems of the fields. At the next meeting a paper will be delivered that will discuss the actual results in the field of standardized casing

The afternoon session was devoted to the reading and discussion of three papers. All three papers are printed elsewhere in this issue. "Drilling and Production Practices in the Permian Basin of West Texas" was prepared by F. S. Seeley and Clyde V. Temple, both of the Humble Oil & Refining Co., and covered the subject comprehensively and broadly. It provoked considerable discussion and was closely followed because of the problems discussed in the territory which is still new to many companies entering or contemplating entering the West Texas area.

Paraffin trouble, the bane of Panhandle producers, was the theme of a paper prepared by L. L. Bechtel and William O. Blenkarn, of the Midwest Exploration Co., and the many methods of combating paraffin and associated problems were related in that paper. This paper also was of particular interest to many West Texas operators, as well as operators in Louisiana and Arkansas where paraffin trouble is encountered.

"Modern Deep Well Drilling Practice in the Gulf Coast of Texas and Louisiana" was thoroughly covered in a paper written by Melbert Schwartz, production engineer for the Rio Bravo Oil Co. of Houston and read by S M. Greenidge of the Texas Pacific Coal & Oil Co. of Thurber, Tex.

All of the papers provoked constructive discussion and accounts of similar conditions in other areas than those reported on in the papers.

R. B. Kelly, production engineer of the Pure Oil Co., Fort Worth, was elected chairman of the district organization and the following other officers were named: Adrian Moore, Rio Bravo Oil Co., Houston, vice chairman, and W. H. Meiers, chief engineer, Atlantic Oil Producing Co., Dallas, secretary.

Mr. Meiers was also selected as chairman of the program committee. He will be assisted by Bob Ames, Elliott Core Drill Co., Houston, and Sam Gladney, superintendent, Sun Oil Co., El Dorado, Ark. The program committee will also select the date for the next meeting and the city in which it will be held. The next meeting will probably be held in late summer or early fall.

J. Elmer Thomas, Fort Worth, consulting geologist, was elected chairman of the membership committee. Four other members will serve on that committee: Frank Gardner, Simms Oil Co, Dallas; A. W. Peake, Dixie Oil Co., Shreveport, La.; W. D. Brookover, Panhandle Refining Co., Wichita Falls and W. C. Thomas, Vacuum Oil Co., Houston.

Organization of the Texas, Louisiana and Arkansas district of the American Petroleum Institute Division of Development and Production Engineering, marked the last district to be organized.

Those registered at the meeting were: W. K. Mellon, Petroleum Rectifying Co.; W. S. Doherty, Humble Oil & Refining Co; A. W. Peake, Dixie Oil Co.; A. M. McCorkle, Dixie Oil Co.; E. V. Foran, Marland Oil Co.; C. V. Temple, Humble Oil & Refining Co.; R. E. Bridges, Humble Oil & Refining Co.; E. A. Morris, Humble Oil & Refining Co.; G. H. L. Kent, Humble Oil & Refining Co.; E. R. Ames, Elliott Core Drilling Co.; L. H. Courtright, Elliott Core Drilling Co.; R. A. Wilson, Guiberson Corp.; A. O. Behling, Humble Oil & Refining Co.; W. W.

(Continued on Page 164)

Short Meter Course Makes Record

Over 300 Representatives of Gas Companies and Manufacturers From 12 States

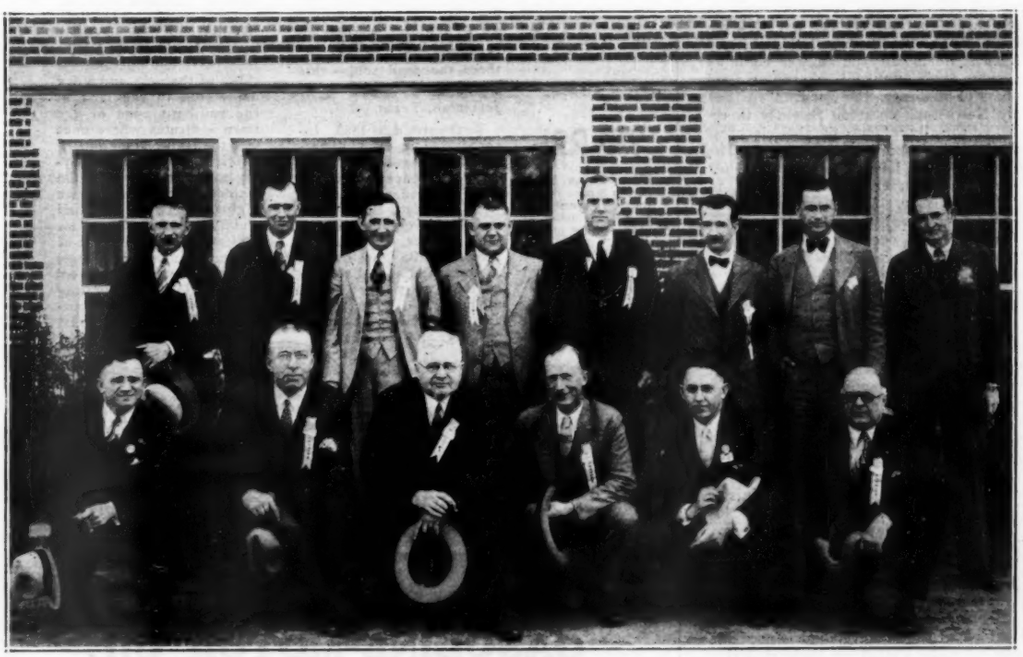
The fifth annual Southwestern Gas Meter Short Course at the University of Oklahoma, Norman, Okla., April 24, 25 and 26, broke all former records for attendance with a total registration of 316. Representatives of natural gas companies and manufacturers of gas meters and equipment, attended from 12 states. States represented and the registration from each follows: Oklahoma, 195; Texas, 66; Kansas, 14; Louisiana, 11; Pennsylvania, 10; Missouri, 7; Arkansas, 6; Iowa, 3; and one each from New York, Montana, Colorado and Connecticut.

The gas meter short course was established five years ago and the attendance has increased each year. It is conducted by the school of engineering of the University of Oklahoma and sponsored by the Oklahoma Corporation Commission and the Oklahoma Utilities Association. The school is conducted by a general committee composed of representatives of the university, Corporation Commission, Oklahoma Utilities Association, natural gas utilities and meter equipment manufacturers.

The personnel of the 1928 committee is: E. A. Clark, chairman, Tulsa, Oklahoma Natural Gas Corp.; W. H. Carson, Norman, professor mechanical engineering; John H. Baxter, Ada, Southwest Gas Co.; F. D. Frank, Bartlesville, the Empire companies; Eugene Metz, Kansas City, Mo., American Meter Co.; B. P. Stockwell, Bristow, Oklahoma Utilities Co.; E. F. McKay, Oklahoma City, Oklahoma Utilities Association; D. C. Williams, Ponca City, Marland Refining Co.; C. B. Day, Oklahoma City, Oklahoma Natural Gas Corp.; V. M. Cone, Oklahoma City, gas engineer, Oklahoma Corporation Commission; F. W. Wright, Dallas, Tex., general superintendent, Dallas Gas Co.; A. J. Kerr, Tulsa, Pittsburgh Equitable Meter Co.; C. W. Robbins, Ponca City, Oklahoma Northern Utilities Co.; D. A. Sillers, Dallas, Tex., Lone Star Gas Co.; and W. L. Crittenden, Oklahoma City, Oklahoma Utilities Association.

A corps of 13 instructors conducted the class room and shop work during the course. A number of papers covering various gas measurement problems were read. Class room instruction was also given on various types of meters, fundamental gas laws and chart figuring, gauges, wet gas measurement, gravity determination, regulators, flow controllers and other similar subjects.

The chief purpose of the Southwestern Gas Meter Short Course is to assist gas engineers, meter men, superintendents and others in attaining higher and more efficient standards of natural gas measurement and of maintaining and repairing gas measuring equipment.



Members of the general committee who arranged the Fifth Annual Gas Meter Short Course at the University of Oklahoma, Norman, April 24, 25 and 26. Left to right, back row—W. H. Carson, Norman; John H. Baxter, Ada; D. C. Williams, Ponca City; F. D. Frank, Bartlesville; D. A. Sillers, Dallas; A. J. Kerr, Tulsa; C. W. Robbins, Ponca City; C. B. Day, Oklahoma City. Left to right, front row—W. L. Crittenden, Oklahoma City, E. A. Clark, Tulsa (chairman); Eugene Metz, Kansas City; V. M. Cone, Oklahoma City; R. S. McBeth, Tulsa; E. F. McKay, Oklahoma City.

Greater Gallonage Advertising Begun

Louisiana Corporation Using the Plan to Induce Motorists to Take More Evening and Week-End Trips

By D. H. Bancroft

SHREVEPORT, La., Apr. 30.—Shreveport refiners are thoroughly in accord with the idea for encouraging greater use of the automobile for week-end and "after supper" jaunts submitted in The Oil and Gas Journal's editorial in the March 1 issue, and in their current advertising campaigns are using it to considerable extent, planning to continue it through the summer and in the fall and winter months as well. For in this country there are few weeks or months in the year when weather is such as to make driving over the widespread network of good roads anything but pleasurable.

One company in particular, Louisiana Oil Refining Corp., is using this sort of advertising almost to the exclusion of anything else, calling attention to the great number of places of historical interest in Louisiana and adjoining states within easy reach of Shreveport. Good roads, a brief recital of the attractions in each of these places, why they should be visited, the part they played in history and how to reach them are dwelt upon leading cleverly to the reminder that "Smiling Loreco Service" is always within a few minutes of wherever one may be.

Last year's advertising appropriation was $121,000 and in spending this year's slightly larger allotment this form of advertising to increase travel will be applied to both the Southern and Ohio divisions' campaigns. The Ohio series began March 30 and is based on Ohio history, the matter appearing in 12 daily newspapers having a circulation of 107,000. Twenty newspapers in Louisiana, Arkansas, Texas and Mississippi with a circulation of more than 145,000, have been selected as the medium for the southern division's campaign, the matter being items of history of the communities of the four states in which the advertisements appear as well as of points within easy reach.

The series has prompted editorial comment in numerous instances and in many cases, particularly the weeklies, attention to the "ads" has been directed by brief items in the news columns stressing their unusual character and tone. For instance, the Jackson (Miss.) Daily News took occasion recently to remark editorially: "One of the cleverest advertisements that has appeared in The Daily News in a long time was published by the Louisiana Oil Refining Corp. in our Sunday issue. While presenting the merits of 'Loreco' products the corporation also took occasion to participate in the anniversary of Mississippi's admission to the Union." Then followed a repetition of the text of the advertising referred to.

"The series has not appeared long enough to warrant making the statement that such copy increases sales," J. D. Flynn, advertising manager, said, in response to a query as to the immediate effect on the corporation's gallonage figures, "but from newspaper verbal and written comments, all unsolicited, which we have received, we know the advertisements are being read, and with interest, which is half the battle, and sales increases should follow. A man in my office this morning, commenting on the series, told me he had never visited Vicksburg, but that our ad concerning the town and its history and what it has to offer the tourist which appeared in a local paper last month, had caused his family to make Vicksburg their objective for a week-end trip before long. 'And, naturally,' he said, 'we will use Loreco gas and oil.'

"The company operates over 30 service stations in Shreveport and we use a small space in the local papers four times a week. We believe that by converting this space to a description of routes to adjacent points of interest, sales through these stations will not only be increased by reason of motorists filling up before the start, but also that Loreco stations along the route described will also be able to show an increased gallonage."

Portions of some of the Louisiana corporations greater gallonage ads follow:

Fifty-eight Miles to Atlanta, Tex.

They tell us that chicken dinners are exceptionally fine at the new hotel in Atlanta, just 58 miles northwest on the road to Texarkana.

Tomorrow get in the car and take to the road. There's a stretch of 40 miles or more of perfect hard-surfaced road through Mooringsport, across Caddo Lake, on through Oil City, Vivian and Rodessa, and then just a few miles of splendid gravel.

The woods are full of red bud, and the dogwood is beginning to blossom. It's a drive that can't be beat anywhere in America for sheer natural beauty of landscape. After a good dinner in Atlanta, if fancy urges you to go further, Texarkana is only some 20 miles further on.

Smiling Loreco Service awaits you at almost every turn of the road.

For an After-Supper Jaunt

Just at the far edge of Oil City there's a new road to the right that goes through rich farming lands over to the Belcher-Ida road. Many a Shreveport motorist has never traversed this new route. It's an ideal evening jaunt. Tonight, after supper, when care has been tucked away for the day, take the family and some of the neighbors and make this little circle trip. There's enough material on this little jaunt to fill a single kodak album with interesting pictures that would excite the envy of folks living in less scenic country.

Beautiful Caddo Lake can be reached in time for a wonderful sunset; groups of typical Southern darkies will be seen loitering about the country stores, and there's abundant beauty in the stretches of pine woods.

And Smiling Loreco Service will be found over the entire route.

Once the Metropolis of East Texas

TO have been a city of twenty thousand people, the metropolis of a great section and an important river port, and then to decline and become a peaceful county seat of three thousand souls—this is the interesting story of Jefferson, Texas.

First settled in 1850, incorporated in 1866, Jefferson in its heyday had three daily newspapers, and the place teemed with industrial activity. Boats from Red River went out through Caddo Lake, up Cypress Bayou to the Port of Jefferson, and there discharged their cargoes of sugar, molasses and tobacco to be loaded again with cotton, beef and grain for remote cities of the East and for foreign countries.

Then came a disastrous fire and the wharf was destroyed. Business declined, newspapers suspended publication and the wholesale houses moved away. Water transportation became a thing of the past, and a dry depression in the land at the southern edge of the town indicates where once was the ship channel.

Jefferson is again enjoying a business revival. On a splendid north and south highway between Marshall and Texarkana, the place invites the tourist to one of the most interesting cities in East Texas. Here, too, you will find Smiling Loreco Service contributing its bit to progress and advancement.

VEEDOL Motor Oils—Greases

Wherever you find a Loreco Service Station you'll also usually find Veedol, the nationally known "Film of Protection."

"Look for GASOLINE LORECO MOTOR OIL LORECO"

LOUISIANA OIL REFINING CORPORATION
PRODUCERS REFINERS MARKETERS

LORECO
GASOLINE-MOTOR OIL

"1928 Loreco Highway Guides Now Available At All Loreco Stations"

One of a series of larger advertisements in Louisiana papers to induce motorists to use their cars more.

Winnfield Moves Closer to Shreveport

It hasn't been very long since Winnfield was of those central Louisiana towns reached by rail after a change or two. It was possible to go by auto a little later on when gravelled roads were extended southward from Ruston and northward from Alexandria.

Now, if you'd like a Sunday outing that doesn't require getting up early and driving until late in the night, just slip out through Bossier City down the Coushatta road and turn left at Campti, leaving home after breakfast and arriving in Winnfield in plenty of time for dinner.

Model roads are rapidly bringing closer to us many towns that once were considered too remote to be visited except on rare occasions and then under difficult circumstances. And there's scarcely any of these within a day's drive from Shreveport where Smiling Loreco Service will not point the way and make the trip one of extreme motoring satisfaction.

Up and Down the Hills of East Texas

If you've had the impression that scenery about Shreveport is a bit monotonous because of the country's so-called "flatness," then take a little journey up and down the hills of East Texas.

Next Sunday drive over to Marshall, thence south through Beckville and Carthage and on to Teneha and Center, then home by way of Logansport, Keatchie and Keithville.

You'll find hills aplenty with winding roads encircling wooded peaks that will remind you of the Ozarks. Then there are shaded nooks among dense woods filled with wild flowers.

Take your lunch if you wish, with assurance of wonderful places for a picnic spread; or eat at any number of first-class hotels along the way.

And at no place on this truly delightful circle trip will you be more than a few minutes drive from Smiling Loreco Service.

Water Hyacinths at Lake Charles

If you've never seen the profusion of color that abounds on the surface of the water on the western edge of beautiful Lake Charles you've missed something. They say the water hyacinth becomes a nuisance in southern Louisiana, interfering with the operation of barges up and down the bayous, but to the traveler they hold an irresistible charm.

Where they came from or how they got started is one of the mysteries of nature. Go down the Jefferson Highway to Belmont, thence to the right through Leesville and De Ridder and on to Lake Charles over wonderful roads. Spend the night in the city of Lake Charles, see

(Continued on Page 164)

La Rosa No. 444 Epic of Oil Driller

Final Triumph Over Threatened Disaster by Fire and Flood. Ingenuity Taxed in Combating Perils

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Apr. 16.—The American oil driller probably has never been called upon to demonstrate more courage and initiative in dealing with a difficult engineering problem than in meeting the hazards accompanying the drilling in 34 feet of water in the Maracaibo Basin of Venezuela.

The story of the well known as "La Rosa No. 444" as told by Consul Alexander K. Sloan will read like a tale of fiction to the practical driller whose experiences enable him to visualize the tremendous difficulties encountered in the drilling and the disasters that threatened the property and lives of the men engaged on the work.

A blowout from the well drilled 34 feet beneath the surface sent forth gas in quantities that endangered the lives of the crew, a geyser burst forth, the derrick was undermined, toppled over and disappeared beneath the surface of the water. The gas caught fire with thousands of barrels of oil floating thickly over the surface and the flames were extinguished only by ingenious methods that called for instant decision and execution.

These events in the Basin of Maracaibo are creating skill and practical experience in drilling in deep water and are being carefully watched by geologists who have looked forward to similar operations in the Gulf of Mexico where domes believed to contain oil have been charted by the United States Coast and Geodetic Survey in the water of similar depth to that of Maracaibo Basin. Dr. David White expressed his opinion, in a paper published in The Oil and Gas Journal, that the Gulf of Mexico contains an oil field equal to the oil fields of Texas and has suggested that when the price of oil warrants the necessary expenditure the problem of recovering that oil will be undertaken.

When that opinion was made public there had been no deep water drilling such as has taken place in Venezuela. Drilling in the ocean bed has been common but has been done near shore.

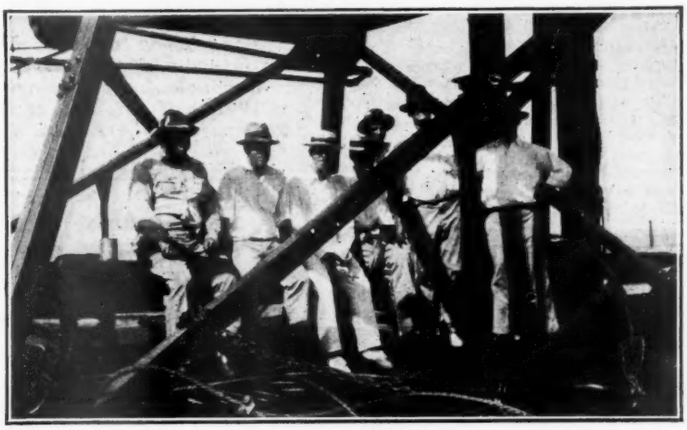
Question of Engineering Skill

The only difference in the problem of drilling in the Maracaibo Basin and the Gulf of Mexico relates to the surge of the waters of the Gulf but those who are best informed on the power of oil spread on the surface of the ocean to calm the waves believe that the task of recovering oil at a depth of 34 or more feet in the Gulf is one that can be conquered by constantly progressing engineering skill.

In the early history of the exploration of oil in the Maracaibo Basin, according to the Minerals Division of the Bureau of Foreign and Domestic Commerce, the only concessions which had been granted were land concessions. After some years, and after oil had been found in quantities at various places along the shores of the lake, the concessions were sought for and obtained in a narrow strip of lake-bed whose lake boundary was a line paralleling the shore line at a kilometer distance; this was known as "The Marine Zone." After oil had been discovered in large quantities in the Marine Zone, a British company, the control of which was later acquired by a prominent American corporation, obtained a concession covering the entire lake bed beyond the boundaries of the Marine Zone.

The extent of the lake-bed drilling which has been done in the Maracaibo Basin is better understood when it is known that almost 28,000,000 bbls. of the total 1927 production of about 63,000,000 bbls. were obtained from wells in the bed of the lake.

Lake-bed drilling presents various problems which are not encountered on land. Derricks and boiler platforms sometimes collapse, due to the sudden shifting of the sands on the lake bottom, the presence of quicksands or the attacks of teredos. Drilling crews are bothered by the glare on the water and are always apprehensive of fire, and in the case of those who cannot swim, they must run the risk of being burned or drowning. Storms at times delay the work, at other times destroy it. The history of the well known as La Rosa No. 444 presents still another problem which is not encountered in land drilling.



The American members of the piledriver crew and officials on the piledriver just after the well ignited on January 23.

Consul Sloan's Account

The scene of this lake drilling was visited several times by Consul Sloan and conditions there described by him form a record of those events of widespread interest.

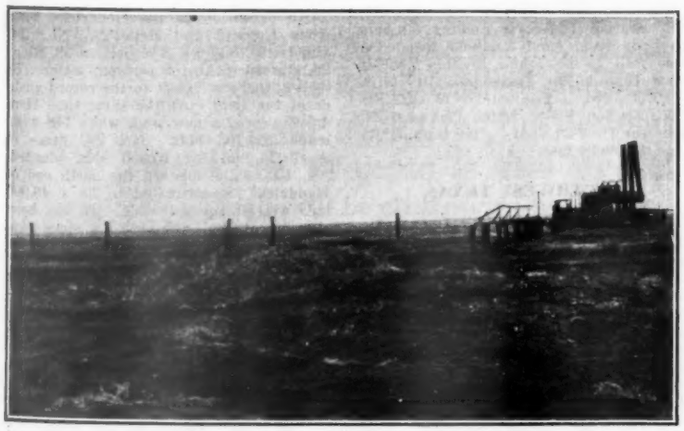
"An American company spudded in on October 25, 1927, the well known as 'La Rosa No. 444,' states Mr. Sloan. This well is located about 1,000 meters off the shore at La Rosa and at a spot where the water is 34 feet deep. On December 6 the hole had been drilled to a sand about 2,100 feet deep and on that date some 1,000 feet of 11¾-inch casing had been set but not cemented.

"About 6 p. m. on December 6, the well began to blow out around the casing," continued the consul. "Since the flow of gas was coming from outside the casing and since the water was 34 feet deep and no diver could descend in a gas pressure such as soon developed, there was little that could be done to choke off the blowout. One hour later a stream of oil, water and sand was being blown through the crown block of the derrick. At 7 o'clock the next morning the piles upon which the derrick rested were undermined, the derrick toppled over and disappeared under the waters of the lake. Over the spot where the casing had been broken off the escaping gas blew out the lake waters into a geyser some 15 feet or more high. The air within a radius of many yards was so impregnated with gas that breathing was rendered difficult. The surface of the lake for hundreds of yards around the geyser was soon covered with a coating of oil some 3 or 4 inches deep. From this central mass large chunks broke off, thinned out and were blown in all directions, covering the waters for miles or collecting along the shores. There were no means of measuring the flow of oil and little use in trying to estimate it as the guesses of various experienced oil men as to the initial production ranged from 4,000 to 10,000 bbls.

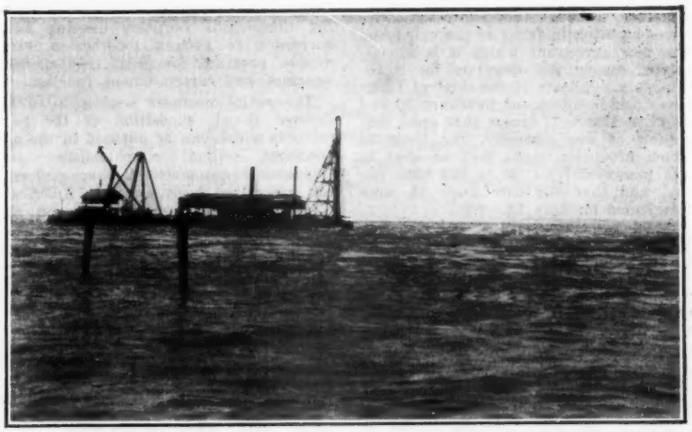
Unprecedented Problems

"As the situation presented many features which had not been encountered before in the history of oil development in the Maracaibo Basin, and so far as officials know in the history of oil development in any field, many conferences were held in an endeavor to work out some plan of operation. Some months prior to this blowout a well near the shore had broken loose, but in this case it was due to a defect in the valves of the casing and this was soon remedied. At that time piles were hastily driven around the well, a canvas curtain which extended a few feet above and below the water was stretched along these piles and

(Continued on Page 95)



This picture was taken on December 26. Between December 7 and December 26 the gas had blown out a crater which from surface indications was at least 30 feet in diameter. The picture was taken from the piledriver which was anchored about 50 feet away from the crater. Over this space water, sand and oil boiled up in a fountain which as a rule was 3 or 4 feet high, but which at times was from 8 to 10 feet high. In the right background is the boiler station of La Rosa No. 444 and a portion of the walk leading from the derrick to the station. The piles showing above the water were those driven to support the canvas curtain in which it was hoped to confine the escaping oil. This plan was given up as it was soon seen that the force of the current would rip the canvas away.



This picture was taken on December 26 from a spot about 100 yards from the crater. The piledriver is anchored about 50 feet away from the center of the crater, and behind can be seen the scow on which were the boilers supplying the power for the operations attempted. The force of the current at this spot was so great that the piledriver was held in place only by the use of one 2-ton anchor and six 1,200-pound anchors; the waves seethed past the piledriver and spray caused by their impact against the front of it wet the decks. The gas from the crater caught fire on January 23 and the amount of it in the air around this spot can be appreciated when it is known that the piledriver was anchored at the same spot on that date as it was when this picture was taken and the gas was ignited by fire in the boilers on the scow.

RELATION OF STOCKS TO DEMAND SHOWS GASOLINE AT LOW POINT

As the price structure in the petroleum industry is based on the law of supply and demand, the quantity of crude petroleum, the raw material, and of gasoline, the manufactured product, in storage is of vital importance in analyzing the general situation. In "The Oil Industry's Answer" published by The Oil and Gas Journal, March 20, 1924, there was evolved a method of computing the relationship of stocks to consumption which was different from that usually followed by statisticians and government bureaus. This method was based on the belief stocks should be considered in relationship to future consumption.

In other words the fact that the industry had several times as much crude oil and gasoline in storage as it did years ago meant little or nothing because of the constantly mounting consumption. The real significance of stocks is the relation they bear to future requirements, or what proportion of our needs for this year we now have aboveground and in storage.

Figured on this basis and with an estimate of gasoline consumption for 1928 made by counting only on a normal increase over last year, although it is very probable the increase this year will be greater than normal, gasoline stocks at the beginning of this year were the lowest in the history of the industry. At the same time, stocks of crude petroleum were not as large in relation to future requirements as they were in 1924, 1925 and 1926 and only slightly above what they were last year.

The following table shows the relationship of stocks at the first of the year to consumption for that year:

Year	Stocks first of year	Consumption that year	Per cent
Crude			
1923	291,630,000	731,540,000	39.8
1924	374,512,000	766,435,000	48.8
1925	417,619,000	811,678,000	51.4
1926	421,243,000	872,908,000	48.3
1927	396,208,000	885,149,000	44.7
1928	463,501,000	*1,000,000,000	46.3
Gasoline			
1923	21,043,000	177,487,000	11.8
1924	28,014,000	213,970,000	13.1
1925	30,823,000	255,362,000	12.0
1926	38,875,000	305,638,000	12.7
1927	39,023,000	342,370,000	11.4
1928	32,323,000	*382,000,000	8.4

*Estimated.

Note: In 1926, 8,215,000 bbls. of crude were burned in California. This naturally increased crude oil consumption in 1926 and reduced crude oil stocks on January 1, 1927 by that quantity. Had this fire not occurred and this crude not been figured as consumption during that year, the percentage relationship of crude stocks to consumption in 1926 would have been 48.7 per cent and in 1927 it would have been 45.6 per cent.

HIGH SPOTS IN FIELD NEWS

Howard County, Texas, operators called in conference by Texas Railroad Commission on proration.

H. N. Pardee appointed umpire of Hendricks Pool, Winkler County, Texas.

Water showing in north extension of Hendricks Field. Cranfill & Reynolds' east offset to record gusher showing 6 per cent. An old gusher goes entirely to water.

Hendricks Field makes new high record, 269,705 bbls., from 148 wells.

Roberts Pool in Howard County, Texas, extended half mile south into Glasscock County.

Caldwell County, Texas, wildcat makes 108 bbls. first hour and 254 bbls. in first five hours. Went dead Monday but connections being changed made 670 bbls. in restricted flow in 22 hours.

New field expected on Allen Dome, Brazoria County, Texas, Gulf Coast.

New Mexico watching Winkler County test 3 miles from the Lea county line as promising extension of Winkler pay into New Mexico.

Long Beach continues upward with deep drilling and extensions and 200,000 bbls. estimate is accepted.

Seminole dropped to new low, 271,416 bbls.

Well half mile east of Pure Oil Co.'s discovery well in Champagnolle, Arkansas, flowed at rate of 2,500 bbls.

Little River Action Depends On Decision of Single Company

A meeting of the operators and companies having holdings in Township 7-6, south of the Little Liver Pool in the greater Seminole area of Oklahoma resulted in the adoption of a proposal to extend the current shut down agreement 30 days after May 15 at which time it expires. The agreement was made contingent upon one company which now refuses to join in any furtherment of the shut down plan making concessions and joining in the extension. The one company has thus far refused to join in any movement which contemplates the extension of the Little River shut down plan, and the strategic position of this company's properties to some extent has exceptional bearing upon the part of the township which is believed to have the most likely possibilities.

At Tuesday's meeting, there were no dissenting votes cast although the objecting company was not present. Two of the companies present reserved their signature, although they expressed themselves as being in favor of the extension. The new agreement which is being circulated among the operators for signature, is a duplicate of the original Little River agreement signed February 20 and effective March 1, except that upon suggestion of one company, the limit to which producing wells will be shut in was increased from 50 to 100 bbls. per day, and that the date June 15 were substituted for May 15.

Another meeting will be called before May 10 in order to determine if the 30 day extension plan is unanimous, and it seems apparent that the Little River field will be thrown wide open on May 15 unless all signatures are obtained by May 10, as the companies having leases around the wells which may suffer from possible drainage feel compelled to take the fullest advantage of the time for preparatory measures.

HEAVY EXPORT SALES IN GULF LUBRICANTS

HOUSTON, Tex., Apr. 29.—Export bulk sales of lubricating stock again figured in Gulf Coast refinery markets the past week and Monday and Tuesday prices continued steady. Although refiners still have not been able to make any general advances in quotations for several months, they are generally optimistic over improving business.

New export business during the week was not general with all sellers but was of sufficient volume to lend encouragement to the situation. Sales were distributed over 100 viscosity pale oil, and the 200 and 500 viscosity red oils. Domestic movements also continued steady with buyers more ready to meet quotations of sellers. Fuel oil reflected very little change, although some business in bunker oils is being done as high as $1.20. Heavy oils moved during the week for 90 cents.

BURNER MANUFACTURERS TO MEET IN BALTIMORE

A large number of oil burner dealers from all over the United States have indicated their intention of attending the Oil Burner Dealers' Convention to be held in Baltimore May 7 and 8, and which is being sponsored by the May Oil Burner Corp. The various committees arranging the details for this meeting have succeeded in getting together a very unique program for both the business meetings and entertainment functions.

The entire business session is to be devoted to an exposition of the best methods which can be pursued in the advertising, selling, merchandising and financing of automatic oil burners. Leading executives from some of America's foremost organizations will be on the speakers' program, and the entire convention is expected to prove very helpful to the oil burner dealer in bringing him the latest proved methods for finding profit in the sale and distribution of automatic oil burners.

Although the meeting is sponsored by the May Oil Burner Corp., it is distinctly a meeting of oil burner dealers, for oil burner dealers, by oil burner dealers.

OIL MEN DROWNED

EASTLAND, Tex., May 1.—A leaking rowboat today cost the lives of J. L. Thompson and Luke Newton, well-known oil operators of Ranger, Tex., who were drowned while fishing in Leon Lake, 3 miles southeast of Eastland.

Late Fields

OKLAHOMA

The Greater Seminole Field produced 280,352 bbls. for the 24 hours ending Tuesday morning at 7 o'clock. The production by pools was as follows:

	Bbls.
Little River	49,850
Bowlegs	69,932
Earlsboro	91,796
Seminole	53,856
Searight	14,918
Total	280,352

The only new well in the restricted area is the Mid-Continent Petroleum Corp.'s No. 1 Bruner, SE cor. SE, Section 11-7-6, which is flowing 60 bbls. hourly from the Wilcox sand found 4,350-54 feet. This well is an offset to the Snowden & McSweeney's No. 1 Tiger which is making 2,017 bbls. daily.

Immediately north of the restricted area, the Pure Oil Co. has a good well in the Little River Pool in No. 1 Harjo, NE cor. SW NE, Section 11-7-6, which is flowing 1,200 bbls. daily from the Wilcox sand 4,200-14 feet.

In the Allen district of Pontotoc-Hughes-Seminole Counties, the Sun Ray Oil Co.'s No. 3 Cully, NW cor. NE SE, Section 18-5-8, is flowing 612 bbls. daily from sand 2,564-2,636 feet. Anderson & Pritchard's No. 1 Cully, SE cor. SW NE, Section 18-5-8, is flowing 30 bbls. an hour from sand 2,620-63 feet. The best well to be found in this pool in some time is the Louisiana Oil Refining Co.'s No. 3 Punluste, NW cor. SW SW, Section 8-5-8, which flowed 1,235 bbls. the first 24 hours after tapping the sand 2,709-48 feet.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., May 1—Dr. Bute's well on the Branyon farm, 4 miles south of Lockhart, which came in Sunday at noon, a wildcat flowing from between the casing and drill stem, went dead at 10 o'clock Monday morning but when connections were changed so it could flow through the drill stem it began producing again. The first 22 hours on restricted flow it made 670 bbls. of oil in steel storage. Size of drill stem and casing is such that it had a space of but an eighth of an inch between the two in which to produce and it could easily sand up. Flowing through the drill stem production must enter through two three-quarter inch holes in the fishtail bit.

Connections had been made at 4 o'clock Monday with the Magnolia Co.'s 10 inch pipe line 300 yards away that extends from the Lytton Springs Field to the company's tank farm at the town of Luling and to connection with the main line to Beaumont from Luling and Mirando Fields. The Texas Company's production department has taken charge of the well and is moving rig to new location 300 feet away. The Texas Company is starting two other tests one on the Medford farm next north and one on the Texas Company farm on a lease secured from Dickinson, 1 mile southwest.

ARKANSAS

SHREVEPORT, La., May 1—Rushing and others' No. 1 E. F. Gregory, was bailed in this afternoon and for the first 15 minutes flowed at the rate of 2,500 barrels daily pipe line oil, total depth 3,206 feet with broken sand from 3,196-3,204 feet and solid sand the remaining two feet. Location is within a half mile of the Pure Oil Co.'s deep sand discovery well on the Gregory farm in Section 10-17-14, Champagnolle area, Union County, Arkansas.

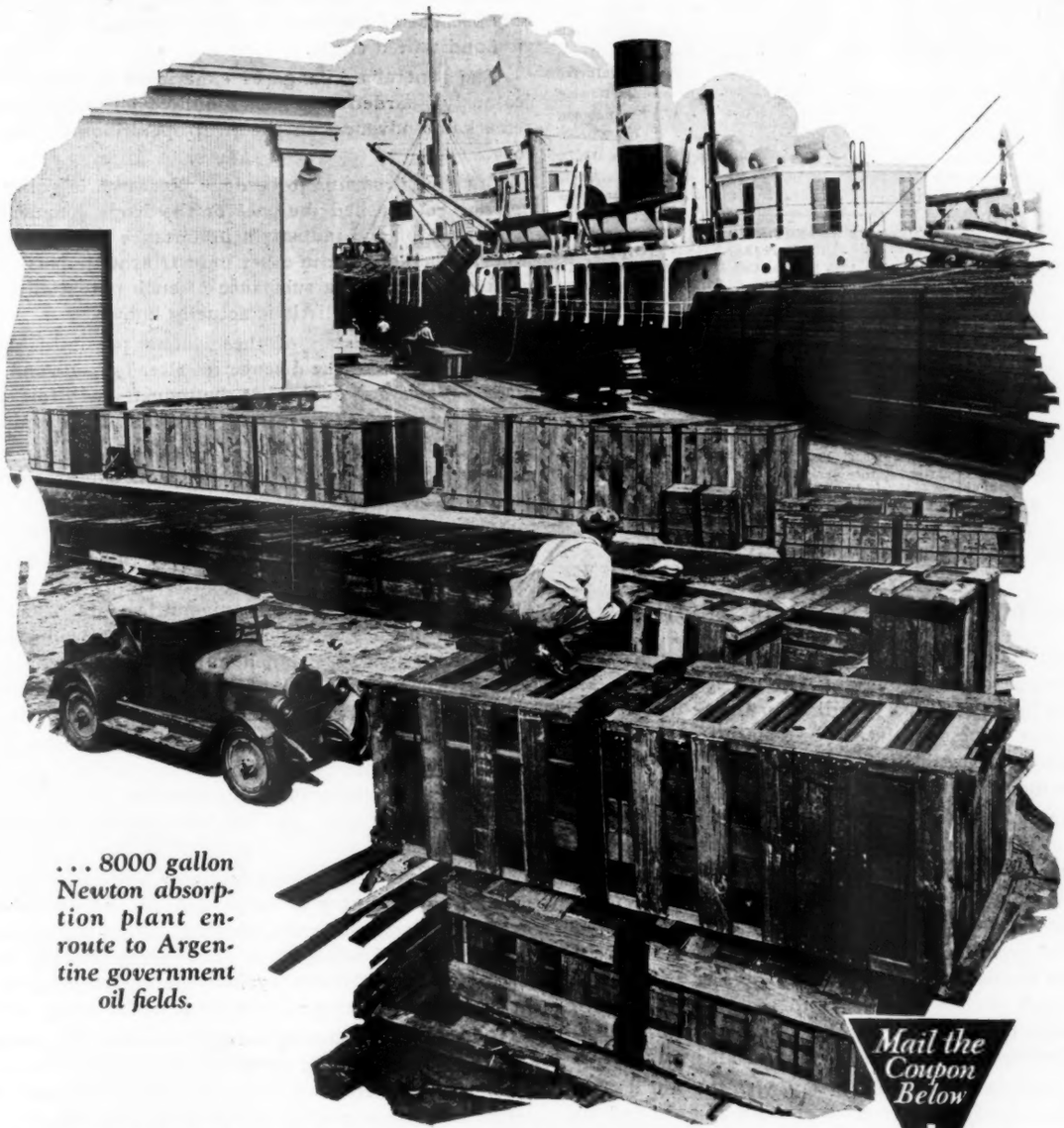
WEST TEXAS

FORT WORTH, Tex., May 1—Water started showing for the first time in the north extension of the Hendricks Field when Cranfill and Reynolds' No. 2-C Hendricks, SW SE SW Section 33, Block 26, started making 6 per cent water. The well is the east offset to the record gusher of the field. At the same time Hendricks scored a new peak when 148 wells made 269,705 bbls. No. 2-C came in April 14, making 10,000 bbls. pinched. No. 1-C, which opened the north end of Hendricks, is estimated to be a 40,000 bbl. well if opened wide. It has been showing one-half per cent b.s. since completion and the b.s. showing has not increased.

The Roberts Pool in southern Howard County was extended a half mile south into Glasscock County when Magnolia Petroleum Co.'s No. 3 Roberts, NE W half Section 34, Block 117, Glasscock County, topped the pay and drilled a few feet, in and filled with oil. Depths were not learned but the well is drilling deeper.

Gulf Production Co. got two good wells in Hendricks when No. 12, tract A, did 3,000 bbls. initial from 2,880 to 2,924 feet and No. 13-C, Section 40, Block B-5, made 275 bbls. the first hour and 335 bbls. the second hour from 2,985 to 3,014 feet. No. 13-C is showing 6 per cent water.

Every Newton Plant Installation
has been *entirely satisfactory* to the Purchaser



. . . 8000 gallon Newton absorption plant enroute to Argentine government oil fields.

Mail the Coupon Below

The relatively low first cost, the low maintenance cost, and the remarkable efficiency obtained in operation, is the reason for this satisfaction.

Newton Process is the Profit Process

A cost estimate will be gladly furnished for any given condition.

Newton Process Manufacturing Co.,
904 Hollingsworth Bldg., Los Angeles.
Please send us information about the Newton Process.
COMPANY NAME_____
REFER TO_____
STREET_____
STATE_____ CITY_____

HURLEY BROTHERS
McBirney Bldg.,
Tulsa, Okla.

. . . REPRESENTATIVES . . .
. . . *Foreign Representatives* . . .
THE NATIONAL SUPPLY CORP'N.
120 Broadway, New York

THE NATIONAL SUPPLY CO.
General Offices: Toledo, Ohio
and all stores

NEWTON PROCESS
MANUFACTURING COMPANY
904 Hollingsworth Bldg., Los Angeles, Calif.

The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

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TWENTY-FIVE YEARS FROM TODAY

Twenty-five years hence new men will be in the places occupied by most of the administrators of our great industries today. The big leaders, like the late Judge Gary, will drop the reins and pass on. Who will be their successors twenty or twenty-five years from now? What preparations are being made to face the responsibilities and undertake the obligations that lie ahead?

The whole country, in fact the whole world, is directly and deeply concerned in the development of our industrial civilization and hence in the men who administer the affairs of our big businesses. How much depends, for example, upon the wise development of the oil industry that has become so important in modern life.

Its unprecedented growth continues year after year as if carried forward by its own momentum to constantly greater dimensions. We have only to look back a few years to realize the immense strides that have been taken and to project like progress ahead to foresee that it is destined to become the giant of all industries.

What will it be even ten years from today with the world striving to match the motorization of America on land and sea and air, when foreign fields and foreign refineries are called upon to supplement the resources of the Americas in meeting the universal demand for petroleum products?

The mere day-to-day view of the industry, the momentary importance of an individual or corporate interest, sinks into relative insignificance in contemplation of the potentialities of tomorrow.

That future is the reality; today but a step towards it.

It behooves the industry and its administrators to be forward looking, to consider and formulate policies and plans that will withstand the strain to be put upon them and enable the industry to fulfil what will be expected of it in the years to come.

Some things have been done; some are being done, and some have not been done. There are many subjects for the industry and its administrators to be thinking about; matters of legislation, matters of management, matters of moment to the great work in which we are all engaged and its importance to the world in which we live.

The men of the kerosene age were alive to their responsibilities. They looked ahead. They developed world-wide markets for their product by spreading the kerosene lamp over the globe. They built up a great industry and when the gasoline age arrived the industry was ready to meet all the demands placed upon it.

We of the gasoline age are equally obligated to carry on and prepare the industry for the next development.

Much progress has been accomplished in the past few years. There has been notable achievement in the work of standardization, making for greater efficiency all along the line, but especially valuable because of the demonstration of what can be done by co-operation and united effort.

The general exchange of experience and information formerly jealously guarded has been found of advantage to all, leading to remarkable advances in practical operations in field and manufactory.

But much remains to be done. Research is going forward but it has not yet reached the pace or the scope commensurate with the magnitude of the industry's importance, present and future. Millions are being spent in other industries with marvelous results. Yet not one deals with a substance of such potentialities as petroleum and about which so little is actually known.

Science assures us of these latent possibilities, not nearly so strange as some of the discoveries already made and today commonplace. We cannot doubt that the industry will fail to develop them. It has never lagged in meeting demand, outstripping consumption by sheer efficiency in production.

It will be found equally competent in supplying the need for the rapidly developing air transport and domestic heating and expanding chemical and industrial uses of petroleum products.

The indomitable spirit and virility that marked the pioneers of petroleum is being supplemented today by science and education. Technological schools and universities are establishing special courses in physics, chemistry, geology and production engineering, designed to provide trained minds for the industry qualified to cope with new conditions and new problems that can be mastered only by scientific knowledge and its practical application.

These are phases that demand consideration in charting the course of the industry for the next ten or twenty years. They call for broadmindedness in administration, for intelligent foresight and careful planning, and the submerging of selfish interest for the good of all.

To grapple with them effectively there must be a broad-gauge view of the industry at large and its indispensability to human progress. Fortunately the thinking men in the industry are coming to that view and acting on it. It is being realized that competition carried to excess reacts against the entire industry and that the interests of those responsible for it suffer along with the rest.

It was the developing recognition that the temporary gain of any one interest cannot outweigh the general effects which carried the movement for co-operation in the curtailment of overproduction to its present practically universal adoption.

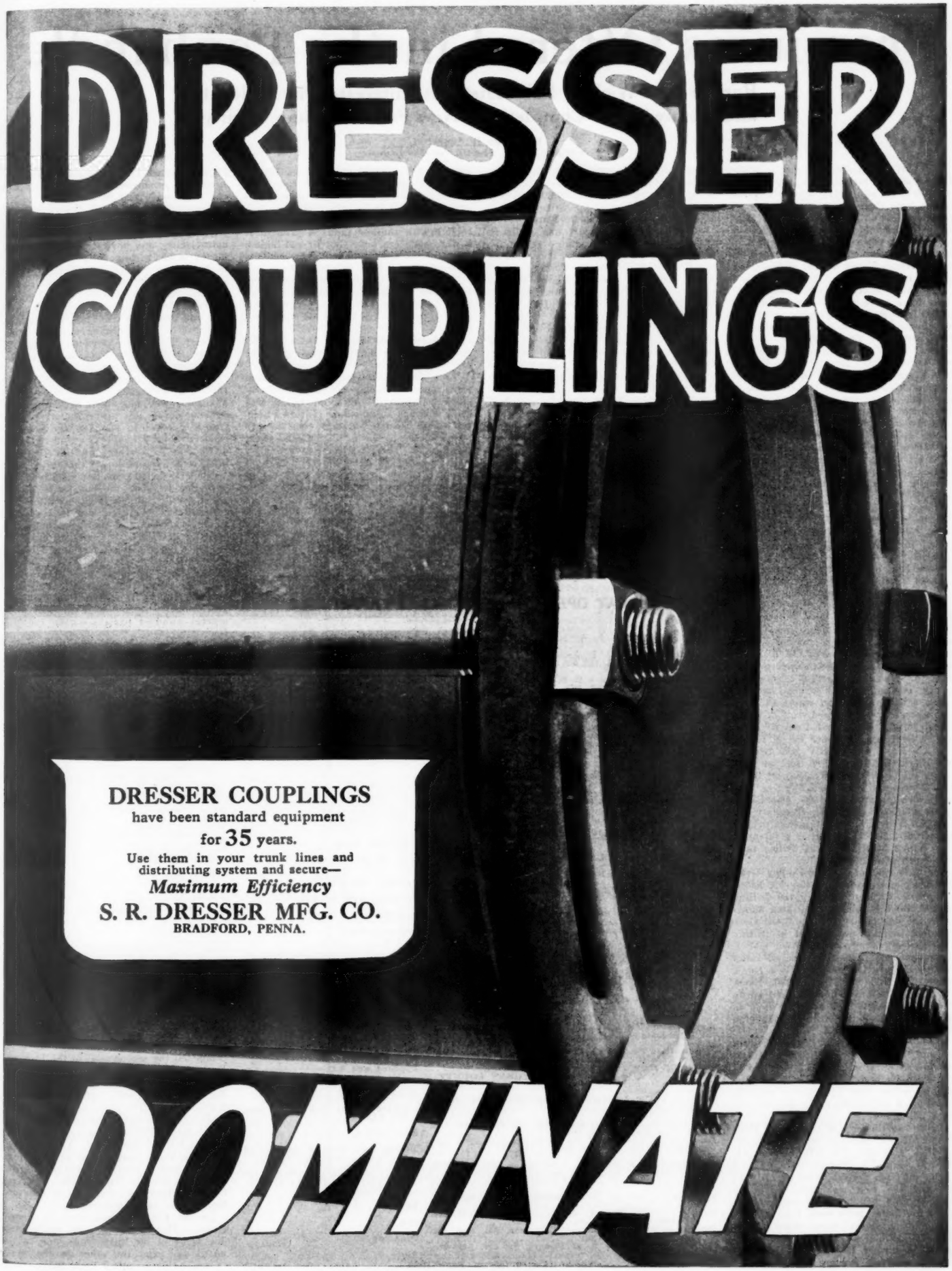
It was the same enlightened self interest which convinced the modern world that a pestilence in the slums is a general menace; or, conversely, that the higher the common standard of living the better for everybody.

This used to be sneered at as altruism but it has been demonstrated as sound economic sense. The task before the oil industry in the next ten or twenty years is going to be too big to permit of minor differences or shady competition.

The immediate duty is to be ready to meet whatever demands are made upon us, to have a definite plan for the great future that is assured. We must look ahead, must consider the effects of more efficient motors, must develop new markets and enlarge those we already have.

These problems must be studied by the present administrators of the industry as problems of the industry as a whole to be solved not in terms of any special interest but for the good of all.

Men are increasingly coming to see that the broader interest is the better in the end, that fair play leads to permanent gain, that the big thing to do is always the right thing.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Premiums Offered in the Panhandle

Ranger and Wichita Falls Districts Interested in Wildcat and Semiwildcat Completions. New Pool in Young County

By James H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Apr. 30.—Wildcat and semiwildcat wells in the Ranger and Wichita Falls districts enlivened the reports from those areas during the past week and the outpost wells in the Panhandle made a bid for the attention of operators in those areas. Production in all three districts showed slight increases to give North Texas a gain of 910 bbls. in daily average.

Panhandle operators are more optimistic for a price raise as a result of the Bell Oil & Gas Co. offering premiums for about 800 bbls. of production in Hutchinson and Gray Counties. A premium of 5 cents a barrel for 175 bbls. of the Dan A. Japhet production in Hutchinson County was offered and a 7½-cent premium was offered for the 600 bbls. of sweet oil production of the Gibson Oil Corp. in the Bowers Pool in Gray County.

So far as leasing is concerned, Moore County appears to be getting the most noteworthy play. However, that play is not a brisk one. Leasing in other areas remains about normal, with Gray County getting a big share in lease and royalty trades.

Prairie Oil & Gas Co. is making an interesting experiment in the Panhandle in an effort to reduce the corrosion cost in that field. The steel and wood-working tanks on the leases corrode rapidly and the Prairie company is experimenting with 250-bbl. concrete working tanks.

Panhandle Completions

The completion report from the Panhandle did not show any outstanding wells for the week, although more wells were completed than are normally completed in the field. United Oil & Trust Co.'s No. 1 J. P. Reck, Section 162, Block 4, H.&G.N. Survey, Armstrong County, is another rank wildcat failure, getting a hole full of salt water at 3,780 feet, where it was plugged.

East of the McConnell Pool in semiwildcat territory, Danciger Oil & Refining Co.'s No. 1 Crank, SW NW Section 163, Block B-3, has 1,800 feet of 43.8 gravity oil in the hole from pay at 3,185 to 3,220 feet and 3,227 to 3,318 feet. The well is drilling at 3,325 feet. About half a mile south of that well, Guernsey Oil Co.'s No. 2 McKinney is flowing 70 bbls. daily from 3,257-65 feet after a 60-quart shot. No. 2 McKinney was drilled to a total depth of 3,320 feet.

One mile east of Pampa Donley Gray Oil Co.'s No. 1 Jordan, Section 79, Block 3, in rank wildcat territory, is drilling below 4,160 feet without anything showing in the deep zones. Majestic Oil Co.'s deep test in the Bowers Pool is drilling at 4,040 feet.

Just inside the western line of Gray County, Empire Gas & Fuel Co.'s No. 1 Dauer, NW SE SE Section 236, Block B-2, H.&G.N. Survey, made a light spray of oil from 3,010 feet and the hole is bottomed at 3,013 feet while 6-inch pipe is being run.

In the Lefors district, Plains Drilling Co. and Ray's No. 1 Chapman has a hole full of oil from 2,775-77 feet and is shut down for storage. The well is in the territory where Ray and Massie recently drilled in a big producer in Section 51, Block 25.

On the north bank of the North Fork of Red River, Sullivan and associates' No. 1 S. A. Cobb, NE NW Section 64, Block 25, H.&G.N. Survey, sprayed 44.5 gravity oil from granite wash at 2,510-22 feet and the well was shut down for storage. This well is in the area opened by the McCauley wells some time ago.

It has been several weeks since Hutchinson County had a big gas well and during the past week Harris and associates' No. 1 J. Q. Bost, Section 10, Block Y-2, hit gas in sufficient volume to enliven arguments anent big gas wells in that area. The well is making 90,000,000 feet of gas and drilling at 2,895 feet.

New Pool in North Young

One of the most interesting wells in the Wichita Falls district was P. F. Gwynn and associates' No. 1 Kunkel in the B.B.B.C.R.R. Survey, Young County, which indicates the opening of another pool in north Young. The well made 60 bbls. from sand at 1,140-43 feet. It is northwest of Olney.

The well is southeast of the old Gambell Pool and since its completion three offsets have been staked and will be drilled immediately. The owners of the producer will drill the north offset; Continental Oil Co. will drill the south offset, and Prairie Oil & Gas Co. will drill two wells east of the new producer.

Panhandle Refining Co.'s deep wildcat in Jack County continues to be the center of interest for many operators. That well, No. 1 Daugherty, Isaac Hughson Survey, A-256, swabbed 180 bbls. from the Strawn sand at 2,973-80 feet. It is reported to be swabbing around 200 bbls. and is to be drilled deeper.

When the well made its initial flow, it indicated it would make a much better well than a 200-bbl. producer. Consequently, acreage trading was brisk. The trading has slowed down considerably since, but despite the disappointments of the well considerable trading in that general vicinity is being reported.

Young County's completion report was replete with shallow failures. The three better producers were 130, 70 and 30-bbl. wells, respectively. The other shallow wells were less than 10-bbl. wells.

The Wichita County completion report contained an unusually large number of wells as a result of a large number of shallow producers being drilled some time ago.

Production of Wichita Falls district showed another slight increase over the previous week.

Two deals involving old production were reported. Kemp & Clower of Burkburnett purchased the Camp Oil & Gas Co.'s holdings at Sunshine Hill and Electra. The Electra holdings consist of a 60-acre lease in the L. P. Douglas tract, Section 11, H.&T.B. Survey, with five wells making 12 bbls. daily. The Sunshine Hill lease is a 40-acre tract out of the Overall farm in the G.C.&S.F. Survey.

Duncan & White, Wichita Falls, are reported to have paid $14,000 for the Buffalo-Texas lease on the Douglas farm 2 miles northeast of Electra. The lease has eight shallow wells making around 12 bbls. daily. The owners plan to deepen the old producers.

Good Well in Coleman

Eastland County and Brown County shared the limelight in the Ranger district activities during the week. Coleman County was in the "spot" news late in the week with a good well south of Santa Anna. Most noteworthy of the wells was Operators Oil & Gas Co.'s No. 1 Williamson in the W. Van Norman Survey. The well topped the pay at 2,190 feet and made 930 bbls. yesterday and is reported to be increasing steadily in its output. This well extended production of the Sibley-Casey Pool across to the south side of the Leon River.

It is unique in that the crew drilling this well will share in its production. When the well was about half way to its present depth the operators were in a frame of mind to abandon the hole because a nearby test was completed as a duster. J. T. Northorp and Harry Copeland, tool dressers, and V. L. Raines and V. Sellers, drillers, made a deal with the operators to carry the hole on down for one-sixteenth interest each. Drilling was resumed and the extension well appears to be headed for a flush production of close to 1,000 bbls. of sweet oil daily.

White Eagle Oil & Refining Co. and Tannehill Oil Co.'s deal, whereby the White Eagle company was to purchase half interest in the Tannehill company's holdings in the Matthews Pool failed to go through. Production of the pool is off several hundred barrels within the last few days.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending April 28, 1928

Company, Well, Farm, Name, Section and Block—	Remarks—
BRISCOE COUNTY	
C. S. Rice's No. 1 J. C. Anderson, SE cor. NW NW, Sec. 22, Blk. B-3, B.S.&F. Sur.	S.D., 1,620 ft.
CARSON COUNTY	
Amarillo Oil Co.'s No. 1 E. S. Polling, C NE of N 30 acres of NE, Sec. 12, Blk. Y-2, B.&B. Sur.	Drlg., 2,580 ft.
Amatex Dev. Co.'s No. 1 E. S. Polling, Sec. 32, Blk. 3-Y, Denson et als' No. 1 W. E. Cobb, 930 ft. from N line, 330 ft. from E line, W half NW, Sec. 184, Blk. 3, I.&G.N. Sur.	T.A., 2,110 ft.
	Bldg rig.
Empire G. & F. Co.'s No. 1 J. C. Noel, C SW, Sec. 41, Blk. 4, I.&G.N. Sur.	Drlg., 2,000 ft.
Empire G. & F. Co.'s No. 1 E. W. Sheridan, C NE, Sec. 243, Blk. B-2, H.&G.N. Sur.	24,000,000 ft. gas 2,651-76 ft; drlg. 2,676 ft.
Gulf Prod. Co.'s No. 1 W. E. Cobb, SE cor. S half NE, Sec. 202, Blk. 3, I.&G.N. Sur.	Cmtd. 8¼-in., 2,157 ft; drlg. plug.
Marston Oil Co.'s No. 1 J. L. Noel,	Fish., 3,050 ft.
Skelly Oil Co.'s No. 8 H. Schafer, NE SW SW, Sec. 88, Blk. 4, I.&G.N. Sur.	T.P., 3,184-92 ft. in lime; G.W., 3,197-3,200 ft; swb. 72 bbls; to drill deeper.
CASTRO COUNTY	
Colorado O. & R. Co.'s No. 1 M. Slemmons, SW cor. Sec. 73, Blk. M-17, B.S.&F. Sur.	Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur.	S.D., 510 ft. for sog.
CHILDRESS COUNTY	
Hoover & Calloway's No. 1 O. L. Tucker, Sec. 736, Haggard Sur.	Spudded and S.D.
C. L. Sloane et als' No. 1 B. P. Smith, Sur. 49, P. P. Knott lands	Set 6-in., 2,962 ft; S.D., 4,005 ft.
COTTLE COUNTY	
Explta. Co.'s No. 1 Richards	Spudded and S.D.
Explta. Co.'s No. 4 Matador Land & Cattle Co., C, Sec. 46, J. H. Stephens Sur.	Rig on ground.
DALLAM COUNTY	
Marland Oil Co.'s No. 1 A. M. James, C SW W half, Sec. 21, S. H. McElreath Sur.	500 ft. wtr. in hole; drlg., 4,040 ft.
Marland Oil Co. et als' No. 1 Capitol Synd., Sec. 36, Blk. 13, Capitol Synd. land	S.D., 3,500 ft.
DONLEY COUNTY	
A. T. Drlg. Co.'s No. 1 F. E. Harrington, Sec. 39, Blk. 3-C	1,300 ft. wtr., 3,115-32 ft; show gas, 3,140-60 ft; dry G.W., 3,-200-93 ft; cmt. 8-in., 3,510 ft; fish for bailer, 3,610 ft.
Martin & Watson's No. 1 W. J. Ball, Sec. 32, Blk. E, D.&P.R.R. Sur.	Cellar.
FLOYD COUNTY	
Explta. Co.'s No. 1 S. H. Boone, C. C. H. Johnson Sur.	S.D., 620 ft. for fuel.
Explta. Co.'s No. 1 Land & Cattle Co.	S.D., 2,525 ft.
Hoffer Oil Corp.'s No. 1 Nelson	Spudded and S.D.
GRAY COUNTY	
Arnold & Howell's No. 1 Turneaux, C SW, Sec. 111, Blk. B-2	Drlg., 630 ft.
Biggs et als' No. 1 Morse, SW cor. Sec. 8, Blk. 16, H. &G.N. Sur.	2,000,000 ft. gas, 2,158-94 ft; fish. bit, 2,220 ft.
Cole O. & G. Co.'s (was Magdalene Oil Co.'s) No. 1 J. E. Williams, Sec. 17, Blk. 1	S.D., 2,860 ft.
Danciger O. & R. Co.'s No. 5 W. Jackson, NW cor. NE NW, Sec. 33, Blk. B-2	Junked hole, 3,230 ft; skidded 50 ft. N; drlg., 2,625 ft.
Danciger O. & R. Co.'s No. 1 W. Crank, SW cor. NW, Sec. 163, Blk. 3, I.&G.N. Sur.	1,800 ft. oil from lime, 3,185-3,220 and 3,227-3,318 ft; 43.8 gravity; drlg., 3,325 ft.
Danciger et als' No. 1 R. Smith, SW cor. Sec. 149,	Location.
Danciger et als' No. 1 L. H. Webb, NW cor. NW, Sec. 62, Blk. 25, H.&G.N. Sur.	Rig.
Dillard et als' No. 1 Furney, NE cor. SE, Sec. 202, Blk. B-2, H.&G.N. Sur.	Spudding.
Dillard et als' No. 1 T. A. Powers, SE cor. SE, Sec. 248, Blk. B-2	Rig.

(Continued on Page 104)

ESTIMATED DAILY AVERAGE PRODUCTION NORTH TEXAS
Week ending April 28

Panhandle	
Carson County	7,415
Gray County	19,435
Hutchinson County	41,560
Moore County	230
Potter County	26
Wheeler County	950
Total this week	69,615
Total last week	69,240
Increase	375
Wichita Falls District	
Archer County	23,002
Baylor County	80
Clay County	519
Cooke County	3,215
Jack County	1,206
Montague County	9,099
Throckmorton County	1,018
Wichita County	27,765
Wilbarger County	13,230
Young County	8,039
Total this week	87,173
Total last week	86,727
Increase	446
Ranger District	
Brown County	12,954
Callahan County	3,729
Coleman County	1,631
Comanche County	1,328
Palo Pinto County	442
Ranger	7,775
Shackelford County	9,615
Stephens County	8,402
Total this week	45,876
Total last week	45,787
Increase	89

Second Eubanks Well

In Brown County, Cranfill & Reynolds completed the second well in the Eubanks Pool which they discovered a few weeks ago. No. 2 Eubanks, a south offset to No. 1, made 400 bbls. initial from sand at 1,205-23 feet. The same operators' No. 1 Keller, a southeast offset to the discovery well, made 100 bbls. after a 10-quart shot at 1,188 to 1,206 feet. The southeast offset makes it appear that production to the east will be comparatively meager, because the sand in No. 1 Keller was very hard, whereas the two wells to the west had a freer sand formation.

In the Clark-Buffalo Pool in Brown County, Henshaw Oil Corp. drilled two dry holes in its Bush lease, one in the north part and the other in the south

(Continued on Page 165)

Hendricks' New Peak 258,257 Barrels

Old Gusher Going Entirely to Water Indicates North Extension Reaching Limits. World's Deepest Well

By James H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Apr. 30.—The past week was one of the most active in the history of West Texas development. The world's deepest well record was broken; Hendricks spurted to a new peak; one of the older gushers in the field went entirely to water; more indication the north end of the field is reaching its limits; a half-mile extension of the Howard County deep pay was made and the wildcats added to the bustle with their various developments while operators of West Texas very vitally concerned with the proration plan affecting Hendricks, Yates and Fields in southern Howard County.

Hendricks went to a new peak for the 24-hour period ending April 27, when 144 wells made 258,257 bbls. On April 28, production was 248,150 bbls. from 144 wells and 251,860 bbls. from 147 wells on the next day. On the day when the field reached its peak, Humble company, Atlantic company and Cranfill & Reynolds were producing close to their capacity with the exception of one well on the Cranfill & Reynolds properties which was pinched far below its capacity. Production by companies for April 27 is as follows:

Company—	Wells	Bbls.
Atlantic Oil Prod. Co.	15	44,516
California Co.	6	5,026
Cranfill & Reynolds	4	28,040
Gulf Production Co.	10	17,511
Humble O. & R. Co.	16	45,407
Independent O. & G. Co.	15	14,071
Landreth Prod. Corp.	6	9,855
Magnolia Pet. Co.	6	3,243
Murchison & Cranfill Bros.	5	800
Pure Oil Co.	9	4,357
Republic Prod. Co.	4	14,739
Roxana Pet. Corp.	18	32,058
Southern Crude Oil Pur. Co.	26	32,484
Texon Oil & Land Co.	4	6,150
	144	258,257

The new peak, however, was not in the production estimate for the past week which showed a slight decline for Hendricks. This decline was reflected in the total production for West Texas which amounts to 371,824 bbls. representing a decrease of 1,417 bbls.

May Cut Off North Extension

Another well that gives indication that the north extension of the field may be cut off rather sharply is Southern Crude Oil Purchasing Co.'s No. 4 T-88 M, SE NE NW, Section 33, Block 26. It is two locations north and two east of Cranfill & Reynolds' No. 1-C Hendricks. Southern Crude's well topped the lime at 2,438 feet. Elevation is 2,841 feet thus making the lime 403 plus or 30 feet lower, approximately, than Cranfill & Reynolds' gusher. Two new wells were completed in the north part of the field last week. Offsetting their gusher, Cranfill & Reynolds completed their No. 2-C Hendricks at 2,752 feet making 10,000 bbls. daily pinched. One location north of No. 1-C, Southern Crude Oil Purchasing Co.'s No. 2 T-67-3-B made 7,172 bbls. flowing open from pay at 2,735-65 feet.

Cranfill & Reynolds' No. 1-A Hendricks, SW NW NW, Section 28, Block B-5, one of the early gushers of the field, is making 100 per cent water. This well was completed October 22, with an initial production of 500 bbls. per hour at 2,875-83 feet. When its production declined it was deepened 4 feet last December and responded making 6,000 bbls. Last week the water encroachment which has steadily been climbing in that well, drowned out production. The water first appeared February 12, 1928, and on April 14 the well was making 60 per cent water. This well is on a 20-acre lease and the production to date is very close to 1,000,000 bbls. The other well averaged 1,800 bbls. last week.

Assuming this 20 acre lease will produce 1,000,000 bbls., and it is hardly conceivable to think the remaining well on that lease will not produce a few more thousand barrels, the recovery per acre will amount to 50,000 bbls. It may be noticed this well went entirely to water 90 days after water first appeared. Whether or not the well will be deepened in search of lower pays has ot been learned.

Hendricks Proration

Effective next Saturday morning at 7 o'clock Hendricks will be restricted to 150,000 bbls. daily by a proration order issued by the Texas Railroad Commission. Harold N. Pardee has been selected as umpire and is in the field familiarizing himself with conditions. The proration order is based on a combination of proven acreage and potential production of each well. The advisory committee of the operators meets in the field today with Mr. Pardee to determine methods of arriving at potential production of each well.

It is estimated that there will be 75¾ units in the field. Each section will be divided into sixteen 40-acre units. Half of the allowed production will be divided equally among the units; the remaining 75,000 bbls. of allowed production will be prorated among the producers on the basis of the potential production of each well. Southern Crude Oil Purchasing Co. will have the largest share of units with seventeen and three-quarters 40-acre units.

Cranfill & Reynolds have 1¼ producing uits which would give them less than 1,000 bbls. daily as their fractional share of the 75,000 bbls. allowed under the proven acreage part of the proration order. What that firm's production will be under the potential production per well part of the proration rule is difficult to estimate. That company's 3,000,000-bbl. crude contract with the Magnolia Petroleum Co. was one of the most difficult obstacles to overcome in reaching a proration plan.

It required 45 days' effort to bring about proration for Hendricks. The first meeting was held at Austin on March 10 and the order was issued April 24.

The eastern extension to Hendricks, Independent Oil & Gas Co.'s No. 1 McCabe, SE NW NW, Section 36, Block B-5, is making 190 bbls. daily and shut down at 3,061 feet. It is probable this well will be shot.

Nine Miles North

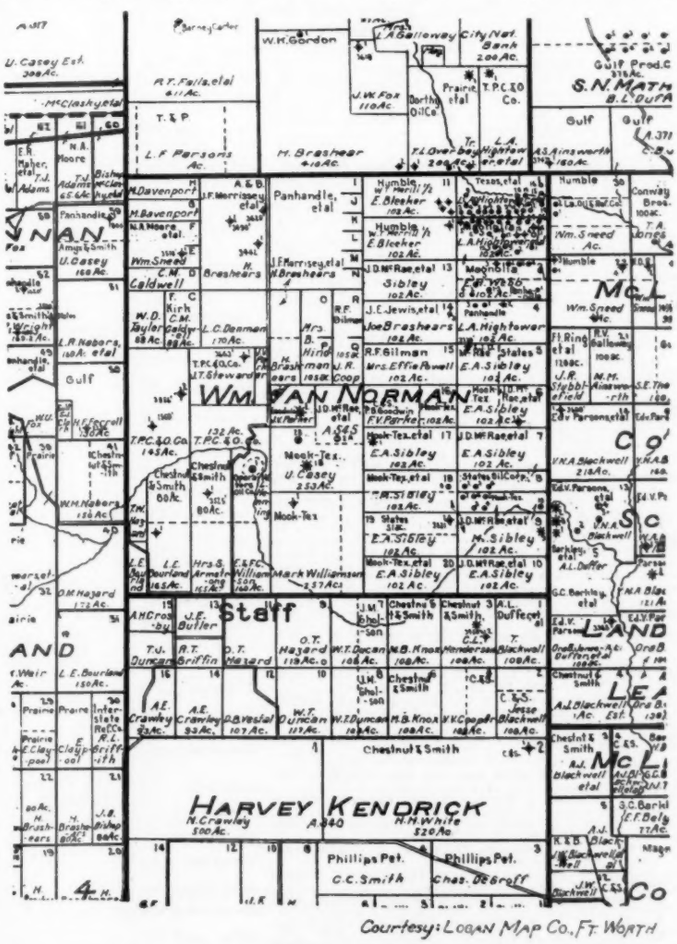
Nine miles north of the field, Gibson & Johnson's No. 1 Daugherty, Section 3, Block 74, gauged 28,200,000 feet of dry gas with 1,300 pounds rock pressure from a total depth of 3,070 feet. This well blew in while being cored from 3,028-70 feet. The operators plan to kill the gas and drill deeper. No. 1 Daugherty is 3 miles west of Llano producer and 4 miles southwest of The Texas Company's New Mexico well. On further north, and in New Mexico, Marland Oil Co.'s No. 1 Eaves, Section 19-26-37, Lee County, made between 8,000,000 and 10,000,000 feet of gas from 2,980 feet. Elevation of the well is 2,960 feet and the well is being drilled ahead.

Winkler County at present has 150 operations. There are an even 100 wells drilling, 22 of which are drilling in the pay and 78 others at lesser depths. Nineteen wells are shut down, 4 are shut in and there are 23 rigs and derricks and 23 locations and cellars. There were 20 new locations reported at the end of the week from Winkler County. Many outlining locations are expected to be made within a short while in order to put them on production under the unit rule.

On April 20, there was a total storage capacity of 9,319,066 bbls. in Winkler County. Of this capacity 6,968,659 bbls. were in storage leaving 1,790,407 bbls. of storage available. At the same period there was a total of 4,896,000 bbls. of steel storage in some stage of construction.

Crystal Oil Refining Corp. is reported to have pipe rolling for a 6-inch welded line from its refinery site at Pecos City to the Hendricks Pool. A 20-acre site for the refinery was reported to have been purchased a few days ago.

Roxana Petroleum Corp. is running oil to its 1,000,000-bbl. capacity concrete storage tank at Monhans on the Texas & Pacific Railroad. It is reported the Roxana corporation plans to build a 1,000,000-bbl. earthen tank at Monhans.



Map showing the extension well to the Sibley-Casey Pool in Eastland County. The extensioner is Operators Oil & Gas Co.'s No. 1 Williamson.

WEST TEXAS

Estimated Daily Average Production for the Week Ending April 28

Crane County	62,427
Crockett County	2,718
Ector County	15
Fisher County	215
Howard County	3,923
Jones County	1,341
Loving County	115
Mitchell County	2,999
Pecos County	51,800
Reagan County	19,061
Runnels County	129
Scurry County	36
Upton County	11,413
Winkler County	215,632
Total this week	371,824
Total last week	373,241
Decrease	1,417

World's Deepest Well

Texon Oil & Land Co.'s No. 1-B University, in the heart of the Big Lake Pool of Reagan County, is the world's deepest well. Sunday morning the well was drilling at 8,206 feet, which was 5 feet deeper than the former record well. Chanslor-Canfield Midway Oil Co.'s No. 96 Olinda, in the northeastern part of Orange County, California. The latter well was drilled with rotary tools while the Reagan County record well is drilling with cable tools. No. 1-B University has 2,000 feet of oil in the hole from the Pennsylvanian topped at 6,250 feet. This crude tests 41.5 gravity and the well is swabbed every two or three days. The well is being carried on down with a 5-inch hole and the hole is open below 6,200 feet where 22-pound 5⅛ inch casing was landed. The open hole is in good condition. At 8,206 feet the bit went into black slate.

Three failures were reported in Reagan County. Marland Oil Co.'s No. 1 University, SE cor. of the W half, Section 26, Block 8, about 2 miles northwest of the Skelly Oil Co.'s well south of Big Lake, had a hole full of sulphur water at 3,189-96 feet, being plugged at 3,205 feet. Hagen & Emch's No. 1 Lofton, Section 1,271, D.&S.E. Survey, drilled into sulphur water at 3,067 feet and was abandoned. White and associates' No. 1 Schofner & Sterling, Section 10, was a

hole full of water at 2,886 feet and plugged.

Roberts Pool Extension

The Roberts Pool in Howard County was extended half a mile north when F. H. E. Oil Co.'s No. 1-D Roberts, Section 136, Block 29, was a hole full of oil from pay at 2,950-52 feet. The well is expected to be drilled in at an early date.

An advisory committee of operators has been appointed to present a proration plan to the Railroad Commission to be effective in the southern Howard County areas. This proposed proration plan is more of a precaution than a necessity. Lack of pipe line facilities is retarding development in the Roberts Pool. As soon as wells are completed in that pool they are shut in. Operators in the Settles Pool have shown no inclination to drill that area further than a few test wells.

Pecos County

Oil Operators Trust Co. expects to start running 4,000 bbls. daily from its Pecos River Bed lease sometime this week. The last production estimate shows that company had seven wells producing on an average of 434 bbls. daily. Company reports showed the lease producing around 1,200 bbls. daily last Saturday.

New treating equipment is being installed and when this equipment is in operation the operators expect to start producing their 4,000 bbls. daily to fill their contract with the Sinclair company. Under the proration plan this company would not be permitted to produce near that much oil. Producing that much crude from the Oil Operators Trust Co.'s leases is not expected to disturb the proration plan of Yates. Offset wells that are being produced under the proration plan will be allowed to produce equally as much oil as the River Bed wells produce. However, most operators are of the opinion that the River Bed lease will not produce 4,000 bbls. daily or anywhere near that figure for any sustained period. Producing those wells to such an extent will bring in a flood of water which will drown out the oil, in the opinion of most operators.

Pecos operators are at present formulating a plan patterned after the Winkler proration plan to present to the Railroad Commission. It is desired to have the field prorated under an order of the Railroad Commission. It is also planned to have the proposed Railroad Commission order effective not later than June 30, when the present proration plan for Yates expires.

Field reports from Pecos County report the failure of another test in that area. Late field news from Pecos reported George Anderson's No. 1 University, Section 11, Block 17, as topping the lime at 1,715 feet and getting a gallon of live oil at 1,725-40 feet. At 1,760 90 feet a bailer of sulphur water per hour was encountered and the well is now drilling in gray lime at 1,820 feet.

In Jeff Davis County, Humble Oil & Refining Co.'s No. 2 Flores had a showing of gas from 4,755-65 feet through a hole full of water. The well is drilling in dark lime at 4,775 feet. Location of the well is in Section 34, Block 58.

Ten wildcats throughout the various West Texas areas were plugged during the past week. The deepest of these tests was Owen & Sloan's No. 1 W. D. Johnson in Loving County which was abandoned at 4,800 feet. Locations were made for 13 wildcats in various counties of West Texas over the week-end.

West Texas Completions

Coke County

W. H. Brown and associates' No. 1 W. L. Foster, SE cor. Section 142, Block 2, H.&T.C. Survey, was dry and abandoned at 2,575 feet.

Crockett County

J. S. Cosden's No. 1 Paul Perner, SW cor. Section 36, Block 2, I.&G.N. Survey, was dry and abandoned at 2,575 feet. Grayburg Oil Co.'s No. 3 Thompson-Collins, Section 70, Block 1, had the pay at 1,053-96 feet and made 40 bbls. the first 24 hours, and 30 bbls the second 24 hours through 2-inch tubing. M. B. Wyrick and associates' No. 1 H. M. Halff, Section 68, Block 1, H.&G.N. Survey, was drilled to 1,400 feet; plugged back to 1,320 feet, shot with 30 quarts at 1,290 to 1,320 feet without results and abandoned.

Crane County

Great Basin Oil Co.'s No. 1 M. T. Eudaley, 2,200 feet from the NE line and 1,800 feet from the SE line Section 36, Block 4, H.&T.C. Survey, was dry and abandoned at 1,700 feet.

Culberson County

Deep Rock Oil Co.'s No. 2 Kloh-Rumsey, Section 21, Block 29, T.&P. Survey T-1, was shot with 20 quarts at 1,555-60 feet without results and plugged at 1,738 feet.

El Paso County

The rig was moved and location abandoned for Ellsworth & Hunt's No. 1 McKinney & Jones.

Jones County

Garland & Diamond's No. 1 E. D. Glynn, SE cor. Section 18, Deaf and Dumb Asylum Lands, was dry and abandoned at 3,145 feet. Midwest Exploration Co.'s No. 1 Sarah L. Phillips, SW cor. Section 16, Block 19, T.&P. Survey, made 17 bbls. on the pump from pay at 2,468-71 feet, total depth 2,472 feet.

Pecos County

California Co.'s No. 12 M. A. Smith, Lease 3, is making 138 bbls. per hour from pay at 1,270 to 1,455 feet. Mid-Kansas and Transcontinental companies' No. 17 I. G. Yates "A," Section 31, Block 194, made 160 bbls. in 24 hours from pay at 1,189 to 1,240 feet. Same company's No. 18 Yates-B was plugged at 1,108 feet. Same company's No. 9 Smith-Taylor topped the pay at 1,206 feet and bottomed at 1,326 feet and made 2,079 bbls. in four hours through one 4-inch line. Humble Oil & Refining Co.'s No. 7 M A. Smith, Section 36, Block 194, had the pay at 1,628-93 feet and made 364 bbls. the first 24 hours. Michaelson & Tabot's No. 1 Pecos River Bed was dry and abandoned at 2,012 feet.

Loving County

Owen & Sloan's No. 1 W. D. Johnson, C SE Section 20, Block 53, T-2, T.&P. Survey, was dry and abandoned at 4,800 feet.

Reagan County

Hagen & Emch's No. 1 E. W. Loftin, C E half Section 1,271, D.&S.E. Survey, made 2 bbls. of sulphur water per hour at 3,067 feet and was abandoned. White and associates' No. 1 Shofner & Sterling, NE cor. NW Section 10, was a hole full of water at 2,886 feet and plugged.

Upton County

Cowboy Evans and Wilburn's No. 1 University, Section 10, Block 15, University Lands, was dry and abandoned at 2,305 feet. Humble Oil & Refining Co.'s No. 8 R Ricker, M. S. Denton Survey No. A-127, made 177 bbls. of oil and 14 bbls. of water in a 12-hour pumping test from 2,268-72 feet.

Winkler County

Atlantic Oil Producing Co.'s No. 2 Grisham-Hunter, Section 34, Block B-5, was shot with 480 quarts at 2,850 to 2,999 feet and 960 quarts at 2,800 to 2,991 feet without results and temporarily abandoned at 3,000 feet. Same company's No. 4 Grisham-Hunter-E, Section 41, Block B-5, had the pay at 2,754 to 2,965 feet and is estimated to be a 5,000-bbl. well. That company's No. 3 Ida Hendricks-D, Section 29, Block B-5, is making 80 bbls. per hour from 2,955-66 feet. Cranfill & Reynolds' No. 2-C Hendricks, Section 33, Block 26, is making 10,000 bbls. pinched from pay at 2,762 feet. Humble Oil & Refining Co.'s No. 12 Grisham-Hunter, Section 34, Block B-5, is making 500 bbls. per hour, 40 per cent b.s. and water, from 2,945-50 feet. Humble company's No. 6 Hendricks-B, Section 29, Block B-5, is making 50 bbls. per hour, 3 per cent water and b.s., from 2,938-60 feet.

Gulf Production Co.'s No. 11 Hendricks-A, Section 34, Block B-5, started off at 145 bbls. per hour from a total depth of 3,050 feet and was pinched to 58 bbls. per hour. Independent Oil & Gas Co.'s No. 3 Grisham-Hunter, Section 34, Block B-5, made 500 bbls. initial from 2,818 to 2,915 feet. Same company's No. 5 Vardeman, Section 41, Block B-5, did 300 bbls. initial from 2,612 to 2,710 feet. Magnolia Petroleum Co.'s No. 3 Ida Hendricks made 600 bbls. at 2,762-2,900 feet. Pure Oil Co.'s No. 5 Grisham-Hunter, Section 34, Block B-5, made 400 bbls. per hour, 40 per cent water and b.s., from 2,761-66 feet. Southern Crude Oil Co.'s No. 2 Ida Hendricks T-67-A, made 355 bbls. initially from 2,985 to 3,010 feet and No. 2 Hendricks T-67-3B, Section 33, Block 26, made 7,172 bbls. the first 24 hours from pay at 2,735-65 feet.

WILDCAT OPERATIONS IN WEST TEXAS

Week ended April 28, 1928

ANDREWS COUNTY

Company, farm and location— Remarks—

Deep Rock Oil Co.'s No. 1 J. W. Harris, C SE Sec. 12, Blk. A-46, Public School Land, elev. 3,167 ft. ..... Top salt 1,690 ft.; total depth 2,860 ft.; preparing to set 6-in. casing.

BORDEN COUNTY

Dixon Creek Oil Co.'s No. 1 Clayton & Johnson ..... Top salt 1,250 ft.; top lime 2,945 ft.; drlg. 3,060 ft.

Marland Oil Co.'s No. 1 G. E. McDavid, C SW Sec. 156, Blk. 25, H.&T.C. Sur., elev. 2,310 ft. ..... Top salt 1,250 ft.; top lime 2,410 ft.; fishing tools 3,410 ft.

Marland Oil Co.'s No. 1 Alexander Murphy, C SW Sec. 66, Blk. 25, H.&T.C. Sur. (3,250-ft. test) ..... Location.

BREWSTER COUNTY

Cowden & Bowser's No. 1-A Jackson & Harmon, Sec. 1, Blk. 331, T.C.R.R. Sur. ..... Drlg. 130 ft.

J. M. Hickey's No. 1 Jackson & Harmon, NE cor. Sec. 182, Blk. 9, G.H.&S.A. Sur. ..... Shut down 1,035 ft.

Reese & White's No. 1 Kimbale, C NE Sec. 204, Blk. 9, G.H.&S.A. Sur. ..... Drlg. 1,792 ft.

Van Mc. hall's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine ..... Shut down 1,700 ft.

Wilcox & Anderson's No. 1 Gage, Sec. 8, Blk. 300, T.C. R.R. Sur. ..... Drlg. 2,070 ft.

COKE COUNTY

W. H. Brown et al's No. 1 W. L. Foster, SE cor. Sec. 142, Blk. 2, H.&T.C. Sur., elev. 2,222 ft. ..... Shut down 3,600 ft.

Lipan Oil Co.'s No. 1 S. M. Conner, Sec. 71, Blk. 2, H.& T.C. Sur. ..... Show oil 1,224-34 ft.; shut down 3,375 ft.

Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C., elev. 2,750 ft. ..... Shut down 2,739 ft.

CONCHO COUNTY

Douglas Oil Co.'s No. 1 A. Harrell, in John Moon Sur., No. 27 ..... Location.

The Exploration Co.'s No. 1 Hartgrove, Blk. 240, J. Schouch Sur., elev. 1,715 ft. ..... Shut down 940 ft.

Sartain Oil Co.'s No. 1 Evridge ..... Spudded and shut down.

CRANE COUNTY

C. C. Duffey et al's No. 1 Cowden, Sec. 18, Blk. X, C.C.S.D.R.G.&N.G. Sur. ..... Location.

Gulf Prod. Co.'s No. 4 W. N. Waddell, C of SW SW Sec. 3, Blk. B-25 ..... Moving in tools.

Gulf Prod. Co.'s No. 50 J. T. McElroy, Sec. 200, Blk. F, C.C.S.D.&R.G.N.G.R.R. Sur. ..... Drlg. 575 ft.

Gulf Prod. Co.'s No. 51 J. T. McElroy, 1,442 ft. S, 1,650 ft. W NE cor. of lease, out of Sec. 201, Blk. F, C.C.S.D.&R.G.N.G.R.R. Sur. ..... Location.

CROCKETT COUNTY

Anderson & Williams' No. 1 University, SE cor. NW NW SE Sec. 19, Blk. 47 ..... Drlg. 1,410 ft.

V. T. Bolin & Co.'s No. 1 P. C. Coates, NW cor. SW Sec. 4, Blk. 2, I.&G.N. Sur. ..... Shut down 2,110 ft.

California Co.'s No. 1 Powell, Lease 1, SE cor. Sec. 62, Blk. BB, G.C.&S.F. Sur. ..... Location.

R. B. Coyle's No. 1 H. M. Halff, C Lot 18, Sec. 70, Blk. 1, I.&G.N. Sur. ..... Shut down 1,382 ft.

Dixie Oil Co.'s No. 1 George Thompson, Sec. 73, Blk. 1 .. Drlg. 260 ft.

Grayburg Oil Co.'s (formerly Osage Oil Co.'s) No. 1 Thompson-Collins, Sec. 70, Blk. 1, I.&G.N. Sur. ..... Drlg. 1,063 ft.

Grayburg Oil Co.'s No. 2 Thompson-Collins, Sec. 70, Blk. 1, I.&G.N. Sur. ..... Shut down 510 ft.

Grayburg Oil Co.'s No. 8 H. M. Halff, 660 ft. S of N L Sec. 70, Blk. 1, I.&G.N. Sur. (1,980 ft. E of their No. 2) ..... Drlg. 80 ft.

Gulf Prod. Co.'s No. 1 G. L. Thompson, 200 ft. S, 4,661 ft. E NW cor. Sec. 74, Blk. 1, I.&G.N. Sur. ..... Location.

Henshaw and McMan Oil & Gas Co.'s No. 1 W. Owens, C NW Sec. 17, Blk. G.G., G.C.&S.F.R.R. Sur. ..... Top salt 1,140 ft.; top lime 2,650 ft.; set 6-in. 3,146 ft.

Republic Prod. Co.'s No. 1 L. B. Powell-B, Sec. 52, Blk. BB, G.C.&S.F. Sur. ..... Building rig.

Taylor-Link Oil Co.'s No. 2 Powell, 150 ft. S and W of NE cor. 14-acre lease, Sec. 52, Blk. BB, G.C.&S.F. Sur. ..... Location.

Tidal Oil Co.'s No. 1 University, SE cor. SW Sec. 8, Blk. 50 ..... Location.

Transcontinental Oil Co.'s No. 1 J. D. Atwood Est., NW cor. Sec. 7, Blk. P2, T.C.R.R. Sur. ..... Building rig.

Van McPhail's No. 1 George Thompson, C 10-acre tract No. 31, Sec. 70, Blk. 1 ..... Location.

Van McPhail et al's No. 1 George Thompson, C 10-acre tract No. 32, Sec. 70, Blk. 1 ..... Location.

W. W. Donnelly & Young's No. 1 Massey, Sec. 39, Blk. U-V ..... Shut down 600 ft.

W. R. Simmons' No. 1 University, 150 feet N of C S line SE Sec. 1, Blk. 14 ..... Drlg. 1,020 ft.

Whonlick's No. 1 H. M. Halff, 150 ft. N of S line and 200 ft. E of Pecos River, Sec. 69, Blk. 1, I.&G.N. Sur. ..... Drlg. 652 ft.

(Continued on Page 98)

WEST TEXAS
DAILY AVERAGE PRODUCTION BY LEASES
Week ended April 28

Crane County

Company and lease—	Wells	Bbls.
Church et al:		
University	1	53
Church & Weekley:		
University	3	960
Church & Fields:		
Duoil-University	1	*52
Eastland Oil and Collett:		
University	2	2,855
Gulf Production Co.:		
All leases	67	16,949
Hum le O. & R. Co.:		
University	13	3,920
Independent O. & G. Co.:		
University-A	5	*896
University-B	2	*717
Landreth Prod. Corp:		
Cowden-Anderson	16	7,842
Magnolia Pet. Co.:		
Un v.-Hardwicke	14	2,240
Univ.-O'Keefe	12	1,719
State-Lasseter	3	107
Magnolia et al:		
University	4	51
Pecos Oil Co.:		
University	16	2,761
Prairie O. & G. Co.:		
University	5	*496
State-Lasseter	7	*7,022
Simms and Atlantic:		
University-A	9	*1,676
University-B	1	50
University-C	8	*3,506
University-D	12	*3,053
University-E	1	143
Stidham & Thrasher:		
University	1	1
The Texas Company:		
University	1	160
Univ.-Beasley	1	20
Tidal Oil Co., et al:		
University-B	2	58
University-C	1	28
University-E	1	74
University-F	8	*1,316
University-G	3	*80
University-H	2	19
University-I	8	*2,915
Total Church and Fields Pool	236	63,570
Average per well		269.2

Miscellaneous, Crane County

Gulf Prod. Co.:		
Waddell	1	27
McMan O. & G. Co.:		
Hughes	2	59
Marland Oil Co:		
All leases	14	455
The Texas Company:		
King	9	135
Union Land Co.-F	1	33
Miscellaneous total	29	709
Grand total Crane County	265	64,279
Average per well		242.5

Pecos County

California Oil Co.:		
Yates, Lease 1	14	3,853
Smith, Lease 1	1	143
Smith, Lease 3	12	3,817

(Continued on Page 164)

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South Little River Pool Promising

Good Production From Wells So Far Drilled Indicates Substantial Output May Be Expected. Seminole Down and Up

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

In spite of the additional production caused by several large completions in the south Little River Pool, the Greater Seminole area registered further declines through the past week, making a new low of 271 416 bbls. on Friday morning. This loss was regained on Sunday and Monday when the output of the pool again touched 280,362 bbls. Divided by pools, the production follows:

Little River	48,836
Bowlegs	71,636
Earlsboro	91,628
Seminole	53,526
Searight	14,736
Total barrels	280,362

The decline was caused by a drop in output of some of the older leases in the Seminole city and Earlsboro Pools. The "hottest" part of Oklahoma today is the South Little River region where the 10 test wells and the offsets to the two producing wells of the Independent Oil & Gas Co. and Snowden & McSweeney are drilling. Almost all of these wells will reach the Wilcox sand within the next week, and their combined output should check any further declines which the Greater Seminole Field may make. The wells will be pinched in under the Seminole operators' agreement after they have been allowed to flow wide open for three days to obtain an adequate idea of their potentialities, but the few days' output should offset any drop in the other sections of the field.

The most important of these wells to date are the Reiter-Foster Oil Co.'s No. 1 Bunyard, SE cor NW SW Section 14-7-6 which had the Wilcox sand 4,256-58 feet, and at only 2 feet in, is flowing 2,750 bbls. daily. This well has continued to run high on all the formations below the Hunton lime, and is the highest well in the field structurally. It will very likely mark the high spot of the region, and the presence of good producing wells directly northeast and southwest of it will unquestionably establish a line of exceptionally productive territory running over 1½ miles, and may eventually connect up with the south end of the Little River Pool.

Another Good Well

The Independent Oil & Gas Co. and The Texas Company's No. 1 Hotulka, NW cor. SW NW Section 23-7-6, is another good well for this region. It is one location south of the original Independent Oil & Gas Co.'s No. 1 Harris, which opened this part of the pool. The Hotulka well had the Wilcox sand 4,165-4,172 feet, and is flowing 5,600 bbls. daily. It is a much better well than the Harris well, which incidentally stopped flowing soon after the Hotulka was drilled into the Wilcox sand.

The Harris well had been pinched in with a back pressure of 125 pounds placed against it, and when the oil apparently was decreasing, the back pressure was gradually removed and showed that the well had gone, entirely dead. There is no apprehension regarding the Harris well, for it is high structurally, and it is felt that when stimulative methods of production are applied, and air-gas lift is put on the well, it will come back with a good flow. It held steadily around 2,500 bbls. daily during the period that it was permitted to flow wide open, while the offset wells were drilling. The completion of The Texas Company-Independent Oil & Gas Co.'s well gives two good wells which offset the Independent Oil & Gas Co.'s Harris well, as the Gypsy Oil Co.'s No. 1 Canard came in with a good flow last week, and made 3,000 bbls. daily before it was pinched in to the allowed figure of 50 bbls. daily under the agreement.

South Little River now presents a totally different picture. The good output of the wells thus far drilled in, shows plainly that the pool is far from being a freak, and that substantial production may be anticipated from at least three different spots in Township 7-6. It would not be at all surprising if the production would eventually extend right up to the vicinity of the Barnsdall Oil Co.'s No. 1 Hotulka, in Section 22-7-6, which was a failure in the Wilcox sand, although it was found on a structural high. This well was a severe disappointment, and is about three-quarters of a mile southwest of the Independent Oil & Gas Co.'s Harris well.

There is a noticeable feeling of unrest among the operators in South Little River. Two weeks ago, a meeting of Seminole operators voted unanimously to extend the shutdown agreement of the entire Township 7-6 for 30 days after May 15, the present date when the agreement terminates. This action was taken in the absence of a few interests, and it now seems possible that the vote may be different when the full complement of operators in this area are present. A meeting called for Tuesday afternoon will be reported in another section of this publication, and will decide the attitude of the operators on this question.

Gypsy Well Between

A well located between the Independent Oil & Gas Co.'s Harris well and the Snowden & McSweeney well (both producers) which ran low but found the Wilcox sand productive, is the Gypsy Oil Co.'s No. 1 Hotulka, NE cor. SE, Section 14-7-6. This well is half a mile south and one location east of the Snowden-McSweeney well. It found the sand 4,441-44 feet, and is flowing 120 bbls. hourly. It made 2,537 bbls. the first 24 hours after the sand was penetrated. The Mid-Continent Petroleum Corp.'s No. 1 Bruner, SE cor. SE, Section 11-7-6, is drilling in the Simpson sand at 4,336 feet and swabbing 230 bbls. dialy. This is the first offset to the Snowden-McSweeney well to be productive, and according to reports it is running very low. The Snowden & McSweeney well is flowing 2,050 bbls. daily, and the trace of water which appeared some time ago has not increased.

In the north end of the Little River Pool, W. B. Pine completed No. 1 Hoyeche in Section 26-8-6 three weeks ago. There was no drilling immediately after the completion of this well, but there are now seven locations announced in this vicinity. It is not in the restricted district.

Morgan & Flynn have a failure in No. 1 Smith, SE cor. NE NW Section 27-17-5, which had Wilcox sand 4,115-4,122 feet with a hole full of water. This well is near Cushing in Creek County.

A well of exceptionally high gravity is the Big Twelve Oil Co.'s No. 2 Taliaferro, SE cor. SW Section 27-1s-8w in Stephens County. This well had sand 1,395-1,405 feet, and is flowing 65 bbls. daily of oil which tested 49.8 degrees A.P.I. gravity.

Carter County

Wirt Franklin Petroleum Corp is building a rig for No. 1 Drake, NW cor. SW, Section 7-1s-3w. Boring and others' No. 1 Walker, NW cor. SW SE NW, Section 10-4s-2w, is rigging up standard tools to deepen from 2,184 feet. The rig has been erected for No. 4 Walker, SW cor. SE NW, Section 10-4s-2w. Cotton Belt Petroleum Co.'s No. 7 Rexroat, NW cor. NE SW, Section 10-4s-2w, is rigging up rotary tools.

Magnolia Petroleum Co.'s No. 2 Bell, SE cor. SW, Section 13-1s-4w, has been completed for 11 bbls. in sands at 2,775-3,015 feet. Cox & Hamon's No. 1 Vorhees, SW cor. SE NW, Section 23-1s-3w, is pumping 85 bbls. from sands at 2,306-2,436 feet. Magnolia Petroleum Co.'s No. 2 Hefner, SW cor. NE NW, Section 33-1s-3w, is pumping 58 bbls. from sands at 3,457 feet to 3,768 feet.

Cimarron County

J. G. Phillips' No. 1 State Land, SE cor. NE NE, Section 24-6-2ecm, has been abandoned at 4,370 feet. Ramsey Petroleum Co.'s No. 1-D School Land, C SE, Section 34-4-1ecm, has been abandoned at 4,306 feet.

Creek County

Tidal Oil Co. has the rig on the ground for No. 1 Robinson, NE cor. SW, Section 20-17-7, Drumright Field. Twin State Oil Co. moved the rig out for No. 1 Coachman, SW cor NE, Section 20-17-7. H. H. Taylor and others' rig has been built for No. 1 Oglesby, NE cor. NW SW, Section 9-18-9. Bartlett and others built the rig for No. 2 Miller, NE cor. NW NW, Section 33-18-9. C. G. Tibbens' No. 3 Jackson, NE cor. SW, Section 4-18-12, is spudding. Fusselman and others built the rig for No. 5 Pickett, C NE SW, Section 33-17-11. Devonian Oil Co. and others' rig is up for No. 1-A Pickett, SE cor. NW, Section 3-16-11.

WILDCAT OPERATIONS IN OKLAHOMA

NORTHERN OKLAHOMA

GRANT COUNTY

Otstot Development Co.'s No. 1 Snyder, NE cor. NE Sec. 6-28-3w ..... Shut down 4,518 ft.
J. V. Bailey and others' No. 1 Maddox, C SE Sec. 18-27-5w ..... Estimated 2,000,000 gas, spray oil 4,835-42 ft.; underreaming 4¼-inch casing.
Thraves and others' No. 1 C. D. Fuss, SW cor. NW NW Sec. 30-27-4w ..... Abandoned 1,230 ft.
Burns & Beasley's No. 1 Bolsterton, SW cor. NW SW Sec. 24-27-3w ..... Rig abandoned.
Brasil & Moses' No. 1 Goutier, SW cor. NW Sec. 34-26-4w ..... Shut down for pipe 650 ft.
Lambert and others' No. 1 Tabor, SE cor. NE SE Sec. 22-26-3w ..... Abandoned after spudding.
Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w ..... Fishing 5,640 ft.

HARPER COUNTY

Kopisch Oil Co.'s No. 1 Johnson, NE cor. SE Sec. 24-27-21w ..... Rigged up and shut down.
Hoffer Oil's No. 1 Cooper, NW cor. SE SE Sec. 12-25-22w ..... Shut down 4,130 ft.

WOODS COUNTY

Sooner State Oil Co.'s No. 1 Marcum, C SW Sec. 20-27-15w ..... Rig abandoned.
Victor Oil Co.'s No. 1 Buskirk, SW cor. SE Sec. 10-26-15w ..... Hole full water, 775-800 ft.; shut down 900 ft.
McCray Oil & Gas Co.'s No. 1 Whitney, NE cor. NW SE Sec. 19-24-14w ..... Shut down 1,880 ft.

KAY COUNTY

Boucher and others' No. 1 Cooper, SE cor. SE Sec. 23-27-2w ..... Drilling 2,905 ft.
Ponca Lee Oil's No. 1 McNeil, NW cor. NE Sec. 32-26-2e ..... Shut down 2,795 ft.
Tonkawa Development Co.'s No. 1 McDaniels, SE cor. SE Sec. 15-25-1w ..... Fishing 4,638 ft.
Corley and others' No. 1 Williams, SE cor. NE SW Sec. 7-21-1w ..... Shut down for casing 1,930 ft.

WOODWARD COUNTY

Otstot Development Co.'s No. 1 Simmons, SE cor. SE Sec. 32-24-17w ..... Shut down for pipe 1,430 ft.
Wight & Wahl's No. 1 Williams, C NW Sec. 16-23-20w ..... Rig.
Randau & Mooney's No. 1 Parker, SE cor. NE NW Sec. 4-23-16w ..... Cleaning out 1,132 ft.
Sharon Oil Co.'s No. 1 Elmore, SW cor. SW Sec. 25-21-21w ..... Shut down 2,772 ft.
Burgoyne Brothers' No. 1 Barnes, SW cor. SE NE Sec. 16-21-19w ..... Shut down 870 ft.
Wight & Wahl's No. 1 James, C NW Sec. 16-23-20w ..... Rig.

GARFIELD COUNTY

E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w ..... Hole full of water 4,650 ft., shut down 4,720 ft.
Failing et al's No. 1 Gorusch, SE cor. SE Sec. 14-24-3w ..... Swedging pipe 4,767 ft.
Fleming and others' No. 1 Wengert, NW cor. NW Sec. 8-22-5w ..... Shut down 750 ft.
Beopple and others' No. 1 Schweer, C SW NE Sec. 12-21-4w ..... Shut down 1,850 ft.
Marland and Barnsdall's No. 1 Looman, NE SE Sec. 9-20-4w ..... Shut down 5,740 ft.
Marland Oil Co.'s No. 1 Miller, SW cor. SW Sec. 12-20-4w ..... Shut down at 4,586 ft., waiting on test Sec. 9-20-4w.

ELLIS COUNTY

Oklahoma Northern's No. 1 Young, NW cor. NW Sec. 9-21-25w ..... Shut down 300 ft.
Hoffman and others' No. 1 Ottes, NW cor. NE Sec. 20-15-8w ..... Rig blown down.

NOBLE COUNTY

Barnsdall Oil Co.'s No. 1 Bumberger, NE cor. NW SE Sec. 11-21-1 ..... Cellar.
Marland Oil Co.'s No. 1 Kidd, NW cor. SW Sec. 32-20-1w ..... Drilling 3,854 ft.

KINGFISHER COUNTY

Slick & Harrington's No. 1 Cromer, SE cor. NE NE Sec. 25-19-5w ..... Location.
H. H. Morgan's No. 1 Buscon, SW cor. SE NE Sec. 30,-16-9w ..... Shut down 1,610 ft.
Galt-Brown Oil Co.'s No. 1 Wolff, NW SE Sec. 6-16-7w ..... Drilling 3,897 ft.
McKinney & Crawford's No. 1 Sturgeon, NE cor. SW Sec. 27-16-6w ..... Drilling 4,410 ft.
Wiley & Manahan's No. 1 Johnson, C NW Sec. 26-16-5w ..... Shut down 4,512 ft.

LOGAN COUNTY

Champlin Refining Co.'s No. 1 Clark, SE cor. SW Sec. 8-19-4w ..... Casing parted 5,625 ft. fishing.
Sinclair Oil & Gas Co.'s No. 1 Webber, SE cor. SE Sec. 18-19-4w ..... Drilling past pipe 4,590 ft., total depth 4,808 ft.
Haley & Smith's No. 1 Guier, SE cor. SW Sec. 32-18-3w ..... Underreaming casing 3,825 ft.
Garber & Pulse's No. 1 Widdoes, NE cor. SE NW Sec. 32-18-3w ..... Shut down 1,200 ft.
T. B. Slick's No. 1 Bryan, SW cor. SE Sec. 25-17-1 ..... Plugging back to sand 5,430 ft.; having casing trouble.
Willis and others' No. 1 Sweezy, SW cor. NW SE Sec. 20-17-2 ..... Shut down 4,677 ft.
W. R. Ramsey's No. 1 McMillan, NW SW Sec. 24-15-2w ..... Hole full of water at 4,597-17 ft.; shu. down for orders.
Bu-Vi-Bar's No. 1 Kirkpatrick, NE SW SW Sec. 12-15-1w. Drilling 4,955 ft.

(Continued on Page 83)

The Flashing System

further improves the fortunate position of Dubbs Cracking Process licensees

Any cracking process may get by in fair business weather, but the Dubbs with its Flashing System can weather the worst market storms, with premium gasoline and premium fuel oil as products

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Creekmore and others' No. 2 Gilles, SE cor NW NW, Section 14-16-11, is spudding. The Prairie Oil & Gas Co. made location for No. 1 Bailey, NE cor. SE, Section 14-18-9. The rig is being built to deepen No. 3 F. Kernal, SW cor. NW SE, Section 30-14-8.

Shaffer Oil & Refining Co.'s No. 4 L. Tiger, SW cor. NW, Section 17-17-7, Drumright Pool, was completed for 317 bbls. after a shot of 5 quarts in sand at 2,823-49 feet. Tidal Oil Co.'s No. 1 Roberts, NW cor. SE, Section 20-17-7, has been brought in for 130 bbls. in sand at 2,749-90 feet. Magnolia Petroleum Co 's No. 1 Cornelius, SW cor. NE NE, Section 3-16-7, is dry and abandoned at 3,677 feet. Madden & Madden Oil Co.'s No. 1 Watson, SW cor. NW SW, Section 20-16-8, is dry and abandoned at 3,950 feet.

Roxana Petroleum Corp.'s No. 3 Clark, SE cor. NE NW, Section 18-19-9, has been completed for 1,000,000 feet of gas in sand at 2,323-50 feet. Haddock and others' No. 1 Cook, SE cor. NE, Section 14-18-9, has been shut in for 9,500,000 feet of gas in the Dutcher sand at 2,812-15 feet. Sunray Oil Corp.'s No. 1-A Billie, SE cor SW SW, Section 7-18-12, is dry and abandoned at 2,342 feet. Roxana Petroleum Corp.'s No. 1 Yarhola, SW cor. NW NW, Section 11-17-9, is dry and abandoned at 1,957 feet. T J. Wood and others' No. 3 Charcotenne, NE cor. NW SE, ection 21-17-9, has been abandoned at 2,985 feet. J. Winemiller's No. 3 Dee-Nun, NW cor. SE SE NW, Section 4-17-11, made 20 bbls. after two shots in Red Fork sand and Taneha sand at 1,538-60 feet and 1,890-1,910 feet.

Garvin County

Magnolia Petroleum Co.'s No. 28 Cowan, SE cor. SW NE, Section 15-1-3w, has been abandoned at 1,770 feet.

Grant County

Oklahoma Northern Utilities Corp.'s No. 1 Coffelt, C NW SE, Section 2-27-3w, Deer Creek area, has been completed for 11,186,000 feet of gas in sand at 4,-727-38 feet.

Kay County

Industrial Oil & Gas Co.'s No. 1 Wright, C SW SW, Section 1-27-1w, Blackwell area, is spudding at 200 feet. No. 1 Deefner, C SW NE, Section 2-27-1w, is drilling deeper at 1,160 feet Martin and others' No. 1 House, NE cor. SW, Section 32-27-1w, drilled to 740 feet and shut down. Gypsy Oil Co.'s No. 4 Gardner, SW cor. NE SW, Section 28-25-1w, is cleaning out to deepen to the Siliceous lime.

Nehr Oil Co.'s No. 1 School Land No. 76, C NW SE, Section 33-28-1w, has been completed for 1,400,000 feet of gas in sands at 646-50 feet and 763-73 feet. Blackwell Oil & Gas Co.'s No. 5 Kumler, C SW SE, Section 9-27-1w, Blackwell district, is producing 30 bbls. from Siliceous lime at 3,598-3,600 feet.

Osage County

Phillips Petroleum Co. made location for No. 2, SE cor. SW SW, Section 1-27-5, Burbank Pool. Lewis Production Co. and Oliphant's No 1, NE cor. Section 22-23-6, is a rig under construction. Petroleum Drilling Co.'s No. 22, SE cor. NW SW, Section 25-26-8, is drilling at 1,400 feet. Indian Territory Illuminating Oil Co.'s No. 7, SW cor. NE, Section 26-25-9, is a machine rigging up. Phillips Petroleum Co. moved a machine out for No. 4, SW cor. NW NW, Section 1-25-11. Osage Syndicate, Inc , has a machine at the location for No. 11, NE cor. SE SW NW, Section 7-21-9.

Kewanee Oil & Gas Co.'s No. 11, SW cor SE NW, Section 34-27-6, Burbank Pool, made 20 bbls. from Burbank sand at 2,815-2,904 feet. Carter Oil Co.'s No. 9, SW cor. NE SE, Section 3-26 6, has been completed for 120 bbls. in Burbank sand at 2,751-2,814 feet. Kay County Gas Co.'s No. 2-B, C NW SE, Section 22-24-7, has been shut in for 12,000,000 feet of gas in sand at 830-65 feet and 1,181-1,208 feet. Peters Petroleum Co. and others' No. 1, NW cor SE, Section 32-24-9, made 10 bbls. from sand at 1,524-60 feet. Indian Territory Illuminating Oil Co.'s No. 6, NW cor. NE NW, Section 1-21-8, is a 15-bbl. well in Bartlesville sand at 2,333-58 feet.

Pawnee County

Privett Drilling Co.'s No. 1 Houston, SW cor. SE NE, Section 10-20-6, made 10 bbls. from sand at 3,035-3,148 feet.

Texas County

Hydraulic Oil Co.'s No. 1 Hitch, NE cor. Section 26 1-15ecm, is dry and abandoned at 600 feet.

Tulsa County

Glidden Oil Corp.'s No. 1-A Wray, SW cor. NW, Section 35 19-13, an old well, is drilling deeper at 2,055 feet with a show of oil. Ellen Oil & Gas Co.'s No. 4 Island, NE cor. NW NE, Section 25-18-14, is spudding. The Texas Company's No. 1 Grayson, SW cor. NW NE, Section 28-19-10, is dry and abandoned at 2,330 feet.

Logan County

Sinclair Oil & Gas Co. is building the rig for No. 1 Murphy, SW cor. SE, Section 17-19-4w.

Beckham County

M. T. C. Oil Co.'s No. 1-A Abbott, NE cor. Section 35-9-22w, is drilling deeper at 850 feet.

Cotton County

Jenkins and others' No. 2 Smith, NE cor. SE SW SE, Section 34-1s-10w, is rigging up rotary tools. Cullum and others' No. 1 Chalmer, NW cor. SE, Section 2-2s-10w, is rigging a rotary outfit.

Hurley and others' No. 1-A Dorrance, CWL SE SW, Section 19-1s-9w, has been abandoned at 2,175 feet. Magnolia Petroleum Co 's No. 1 With-Ke-Bitty, SW cor. NE, Section 30-1s-9w, has been completed for 3,500,000 feet of gas in sand at 2,160-75 feet.

Jefferson County

Magnolia Petroleum Co. made location for No. 1 McKenzie, NE cor. SW SE, Section 23-6s-6w. Carter Oil Co.'s No 5 Jones, SE cor. NW NE, Section 33-6s-5w, is a 15-bbl. well in sand at 1,171-86 feet.

Grady County

Meridian Gas Co.'s No. 1 Serrata, NE cor. NW SW, Section 25 5-8w, is drilling deeper at 1,475 feet. Oklahoma Gas Utilities Corp.'s No. 4 Sanford, SW cor. SE SW, Section 23-5-8w, set 8-inch casing at 1,962 feet, drilled to 2,355 feet and is making 20,000,000 feet of gas. Magnolia Petrolem Co 's No. 3 Heathley, SW cor. NW NE, Section 2-4-8w, was completed for 32,000 feet of gas in sand at 2,165-2,400 feet.

Muskogee County

P. Boyle has the rig up for No. 7 Barnett, NW cor. NE SE, Section 8-15-15. Bryan & Emery moved a machine out for No. 2 N. Barnett, SW cor. SE NE, Section 8-15-15. W. R. Sommerville has the rig on the ground for No. 1 D. Coleman, SE cor. NW SW, Section 18-15-15. M S. Mussellem's No. 1, Lot 30, Block 18, SW cor. SE SE SE, Section 28-15-18, is rigging up. Tidal Oil Co.'s No. 9 E. Sanders, NW cor. SE SW, Section 34-15-18, is drilling at 600 feet. M. S. Mussellem's No. 5 T. Franklin, CSL SW SW, Section 22-14-16, is a machine on the ground. Hale-Harris and others moved a machine to the location for No. 1-A Callahan, SE cor. SW NW, Section 11-14-18. H. E. Morrison and others' No. 1 Drake, CSL SW NE, Section 12-14-18, is spudding. B. B. Wheeler and others moved a machine out for No. 1 Price, NW cor. NE SW, Section 4-14-19.

Hale-Ford Oil Co. has a machine at the location for No. 6 Clark, CWL E half NW SE, Section 6-14-19. C. M. Whaley and others' machine is on the ground for No. 2 Crittenden, SW cor. SE NE, Section 6-14-19. Douglas Drilling Co.'s No. 1 L. Lee, SW cor. NW, Section 7-14-19, is rigging. W. R Sommerville's rig is up to deepen No. 2 P. Carver, NW cor. SE NE SE, Section 4-13-19.

Mitchell Oil Co.'s No. 2 Barnett, SE cor. SW SW, Section 35 16-15, is making 2 500,000 feet of gas from sand at 1,129-1,132 feet after plugging back from 1,930 feet. P. Boyle's No. 5 Barnett, C N half SE, Section 8-15-15, made a 50-bbl. well in sand at 1,623-30 feet. J. O Tilly's No. 1 F. Sykes, NE cor. SE SE, Section 33-15-19, is dry and abandoned at 548 feet. J Paul and others' No. 3 James, SW cor. NW SW, Section 17-14-17, has been abandoned at 1,455 feet. J. L. Dixon's No. 5 Davis, NE cor. NW NE NW, Section 12-14-18, is making 2,000,000 feet of gas in sand at 930-49 feet. E. Mills' No. 1, Lot 9, Block 16.

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KANSAS WILDCATS

BARBER COUNTY

Barbara Oil Co.'s No. 1 Blunk, C NE NW Sec. 20-34-13w.. Drlg. 3,275 ft.
G. W. Basom's No. 1 Grant, SW cor. SE SW, Sec. 13-31-3 ..... Drlg., 789 ft.
Otstot et als' No. 1 Barlow, SE cor. SE Sec. 22-23-3w.... S.D., 1,860 ft.
Rolland et als' No. 1 Pickens, NE cor. NW NE, Sec. 27-30-1w ..... Drlg., 3,210 ft.
J. K. D. Shaffer's No. 1 Carter, C SE SE Sec. 2-33-13w.. Fish., 3,980 ft.
J. K. D. Shaffer's No. 1 Boggs, SW cor. NE SW Sec. 19-33-12w ..... Drlg. 5,366 ft.
Skelly Oil Co. et als' No. 1 Winter, C E half Sec. 17-31-12w ..... C.O., 3,550 ft; ready to d.d.

BARTON COUNTY

Everett & Wiley's No. 1 Ward, NW cor. SW, Sec. 12-20-13w ..... S.D., 3,346 ft.
Huffine et als' No. 1 Smith, NE cor. SE NW, Sec. 17-19-11w ..... S.D., 5,130 ft.
McJilton et als' No. 1 Evanston, SE cor. NW, Sec. 34-17-11w ..... Rig.

BUTLER COUNTY

Cress & Frank's No. 1 Bryson, NE cor. NE Sec. 26-27-5.. Dry and abandoned 3,171 ft.
Derby Oil Co.'s No. 1 Bughman, C SW SW Sec. 21-18-2w Rig.
Empire G. & F. Co.'s No. 1 Semisch, NW cor. SE NW, Sec. 4-33-7 ..... Dry and abd., 2,732 ft.
LaRobb et als' No. 1 Bronsenger, NE cor. SW, Sec. 24-27-3 ..... Rig.
Mid-Kansas O. & G. Co. et als' No. 1 Harsh, NE cor. SW, Sec. 5-24-8 ..... Spudded
Joe Ligget's No. 1 Travender, NW cor. SE Sec. 24-23-6.. Drlg., 2,530 ft.
White Eagle O. & R. Co.'s No. 1 Dixon, NE cor. SE SW, Sec. 1-27-6 ..... Hole full wtr., 3,089-3,105 ft; S.D.
H. F. Wilcox O. & G. Co.'s No. 1 Littell, NE cor. SE NW, Sec. 21-29-4 ..... Collapsed csg., 1,453 ft; S.D.

CHASE COUNTY

Grioner & Fowler's No. 1 Carson, NE cor. NE, Sec. 9-21-7 ..... S.D., 2,025 ft.

CLARK COUNTY

Walker & Warner's No. 1 Mitchell, SW cor. NE, Sec. 16-31-23w ..... Dry and abandoned 400 ft. corrected measurement.

CLOUD COUNTY

Concordia P. & R. Co.'s No. 1 Murdock, SE cor. SE, Sec. 6-6-4w ..... Fish., 3,590 ft.

COWLEY COUNTY

Allison & Fitzwilliams' No. 1 Shapland, NE cor. NW SE, Sec. 20-30-6 ..... S.D., 790 ft.
Barnsdall Oil Co.'s No. 1 Russell, NE cor. NW SE, Sec. 15-33-4 ..... Drilling 2,150 ft.
Derby Oil Co.'s No. 1 Seaman, NE cor. SE NE, Sec. 32-30-3 ..... Drlg., 2,802 ft.
John Herron et als' No. 1 Marshall, SW cor. NE, Sec. 36-30-6 ..... S.D., 1,645 ft.
Meridian Gas Co.'s No. 1 Roselle, SW cor. SE Sec. 8-35-1.. Drlg., 2,010 ft.
Otstot et als' No. 1 Volker, NW cor. NE, Sec. 9-35-1.. Rig.
Harris & Hahn's No. 1 Gamble, C NW NW Sec. 17-35-2.. S.D., 1,400 ft.
E. B. Shawver et als' No. 1 Disser, NW cor. NW, Sec. 10-34-3 ..... Drlg., 2,860 ft.
E. B. Shawver's No. 1 Mullett, C NW SE Sec. 31-34-3 Drilling 3,005 ft.
Vickers Pet. Co.'s No. 1 Daniels, NE cor. NW, Sec. 3-30-3 Drlg., 1,640 ft.

DICKINSON COUNTY

Franks & Johnson's No. 1 Schlessner, C SW NE, Sec. 18-16-4 ..... Drlg., 560 ft.
McBride & Goen's No. 1 Shirley, NE cor. SW, Sec. 21-12-4 Dry and abd., 2,469 ft.
Phillips Pet. Co.'s No. 1 Grayler, SE cor. NW, Sec. 11-14-4 ..... Drlg., 1,500 ft.

ELLIS COUNTY

Derby Oil Co.'s No. 1 Weigel, C NW, Sec. 25-2-17w ... Drlg., 1,475 ft.
J. H. Tatlock et als' No. 1 Leiker, NW cor. NE NE, Sec. 26-13-16w ..... Dry and abd., 3,507 ft.

GEARY COUNTY

Pioneer Oil Co.'s No. 1 Chase, SE cor. SE, Sec. 10-12-7.. Drlg., 2,000 ft.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, SE cor. NE SW, Sec. 27-8-25w ..... S.D., 3,460 ft.

(Continued on Page 119)

LOST SPRINGS, KANSAS, PRODUCER SHOWS FREAKISH NATURE OF SAND

By J. L. Dwyer
Staff Correspondent, Kansas Fields.

The freakish nature of the pay horizon in the Lost Springs district of Marion County, Kansas, was further exhibited by the well of the White Eagle Oil & Refining Co. and others. This well, No. 1 Thompson, SW cor. NE, Section 26-17-4, flowed and swabbed 200 bbls. daily for three days, and then suddenly dropped to 30 bbls. daily. The chat was found 2,-355-84 feet, and the total depth of the well is 2 398 feet. It will very likely be cleaned out and drilled deeper to the Siliceous lime if no additional production results from a shot.

In the same pool, Lariaux and others have a dry hole offsetting three good producing wells. It is No. 2 Merillat, NW cor. SE NW, Section 23-17-4, which found the chat dry from 2,325-2 401 feet. It offsets three wells which are making over 100 bbls. daily. This well may also be drilled down to the Siliceous lime.

C. B. Davis has made a location for a well on a block which was core drilled in Marion County. The location is SW cor. NW, Section 7-19-3, where 2,000 acres have been obtained, and a 2,500-foot test will be drilled.

The daily average production by leases of the Lost Springs Pool of Marion County for the week ending April 28, is given below.

	Bbls.
Phillips Pet. Co.:	
Wells Rezineck	25
T. Rezineck	110
Peterson	330
McCoy	78
Mowrer	6
Frank	10
Prairie Oil & Gas Co.:	
Mowrer	82
Rezineck	40
Lariaux and others:	
Barnes	38
Shoup	24
Peterson	30
Merillat	120
Fowler	23
Reynolds and others:	
Netrourer	30
Zinn	190
Independent Oil & Gas Co.:	
Bevan	64
Mowrer	52
Sinclair Oil & Gas Co.:	
Bevan	198
Braden & McClure:	
Smith	22
Harwood & Winters:	
Ucker	16
Youker & Loomis:	
Bozington	204
W. R. Ramsey:	
Bolby	70
Ward and others:	
Layton	5
Graham Bros.:	
Nelson	20
Total, from 31 wells	1,697

Butler County

Empire Oil & Refining Co. and Roxana Petroleum Corp. built the rig for No. 1 Robinson, SE cor. NE, Section 29-25-4. Empire Oil & Refining Co. is erecting the rig for No 1 Brandenberger, NE cor. SW NE, Section 22-27-5. Cress, Frank and others' No. 1 Bryson, NE cor. Section 26-27-5, is dry and abandoned at 3,171 feet.

Chautauqua County

Griffeth, Bell and others' No. 5 Oliver, SE cor. NE NW, Section 1 32-10, is spudding. Manhattan Oil Co.'s No. 1

(Continued from Page 146)

Silence is the college yell of experience.

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Caldwell County Wildcat Makes Flow

Test 5 Miles South of Lockhart, Tex., Makes 254 Bbls. in Five Hours. Many Leases Near Well Expired a Few Days Ago

By B. D. Stevenson
Staff Correspondent, Southwest Texas

SAN ANTONIO, Tex., Apr. 30.—Dr. James H. Bute and others' No. 1 Branyon, a wildcat well in Caldwell County, 5 miles south of the city of Lockhart, gauged 108 bbls. the first hour and was then pinched in and gauged 254 bbls. in the first five hours.

The Humble, Sun, Texas, Dixie, United North & South, Atlantic and Roxana are in a good position regarding acreage and the Marland, Gulf and Magnolia companies have leases at a little greater distance away. Faulted condition of this area was discovered by the major companies about five years ago and there was something partaking of the nature of a scramble for acreage, considering that it was all wildcat and rather high prices were paid for leases. Since that time there has been considerable drilling all the way from this well northeast to the Dale Field which is on the northeast end of the structure.

Oil Tests 37 Gravity

The Bute well topped the Austin chalk at 2,075 feet and at 2,144 feet casing was set last week with the total depth of the well 2,244 feet. The formation at 2,244 feet was softer and a 3-foot core has been examined by most of the geologists in the territory and there has been up to this time no pronounced declaration that it is Austin. Normally there would be more than 169 feet of Austin which is the depth this hole is in provided it is the Austin. The oil is 37 gravity or above and greenish colored and a different quality and gravity of oil from that of the Luling Field, 6 miles to the southwest. An extension of the line of the trend of the Luling Field from southwest to northeast and on direct to the Dale Field in the northeast part of the county passes directly over the James H. Bute's No. 1 Branyon, but the Luling Field is producing from the Edwards lime, a low gravity oil and this well from somewhere around the base of the Austin is producing a high gravity oil. Depth in feet of the well and the Luling Field and also of the Dale Field which is producing from Serpentine above the Austin chalk is all within 100 feet.

Cores from this well and also from the Joe Bruner well in the southern part of the county, 10 miles south of this well were tilted at an angle of about 45 degrees which is leading some to theorize that the well is in the fault and that the field in each case, if one develops, will be a narrow shoestring affair.

There are some very interesting things about the well. The condition of the leases seems to promise that there will be a scramble to drill. Two derricks, in fact, are already going up without waiting for No. 1 Branyon to test. Some of the leases that have but a few days to run have already been top leased. United North & South has a well on the Callihan lease about a half mile from this well that has been flowing 1 bbl. of oil a day for the last two or three years, presumably from the Austin and at about the depth of No. 1 Branyon. The lease on the tract expired a few days before No. 1 Branyon hit the crown block with a stream of oil and has been taken by others already. One other major company lost a lease a short distance southwest of the well and presumably in the trend. The lease expired two days before the Branyon well came in and J. M. Davis and Tom Horn, independent operators of San Antonio picked up the 46.5 acres. Pat Armstrong grabbed a 4-acre lease within 1,000 feet of the well on the southwest. It is the public school grounds for white children and another tract of the same size northeast of the well, for Mexican children, has also been leased.

Geologists Given Credit

Production all the way from the Dale Field southwest to this field, if any develops, will be credited to geologists for they were the first to find the territory and at the time the major companies bid up pretty high prices for acreage. It was a little before the Lytton Springs Field came in. The only trouble seems to be that it took a little longer and a little more drilling than first contemplated to find the spot. One independent geologist has accumulated a lot of leases up and down the territory as have a few other independent operators but for the most part it has been taken by the majors.

The uncertain element in the proposition is the formation the oil is coming from. Doubt as to that will cause buyers to go a little slow. F. M. Branyon, fee owner of the farm and 70 years old, a native of Fayette County, Alabama, has lived on his farm for 38 years and the well is within 600 feet of his house. He sold a one thirty-second royalty on the 54 acres the well is on on a $250 per acre base—not considered a high price. He has refused to consider any offers or set any price on any more royalty.

New Refugio Sand

A new and deeper sand has been found in the Refugio Field at approximately 3,800 feet. Houston Gulf Gas Co. drilled No. 1 Vance to that depth. It is on the north edge of the field and was fitted with christmas tree and shut in without the drilling fluid being bailed out or the well tested. Heap & Retherford in the center of a 40-acre tract diagonally northeast from the forty with the Vance well in the center has deepened to the

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DIMMITT COUNTY TEST FAILS TO GET GAS; MAGNOLIA ABANDONS DEEP WELL

By B. D. Stevenson

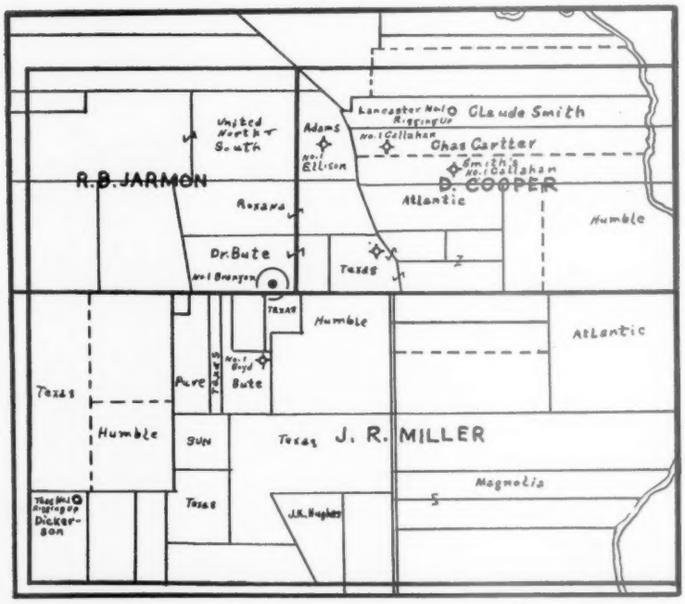
SAN ANTONIO, Tex., April 30.—Wildcat operations the past week record the failure of the Humble to get a gas well in No. 2 City National Bank in the northwestern part of Dimmitt County in the horizon where it got quite a lot of gas in No. 1 when the casing was shot, and record the fact that Rycade Oil Co. in Maverick County in No. 2 Chittim at 5,335 feet is getting some gas and is near the depth where No. 1 made 28,000,000 feet of gas with 75 bbls. of very high gravity oil. Also Pure Oil Co. at 2,378 feet has underreamed the 10-inch and set it at 2,185 feet and will test, in No. 1 Smythe in the southwest corner of Uvalde County and 18 or 20 miles north of the Humble Oil & Refining Co.'s No. 2 City National Bank.

Still another feature of wildcatting is the abandoning of the Magnolia Petroleum Co.'s No. 1 Whitehead in the northeastern part of Val Verde County at 6,665 feet in black shale and lime which it has had for a depth of 3,000 feet. All of these wells are out along the Rio Grande River territory. Humble Oil & Refining Co got about 3,000,000 feet of gas when it shot the casing in No. 1 City National Bank at about 1,450-85 feet but got salt water with it. Unable to complete it on account of the condition of the well after shooting, the hole was plugged and No. 2 drilled and it got salt water on drill stem tests at 1,439 feet, 1,458 feet and 1,458 66 feet and is now drilling below 1,500 feet.

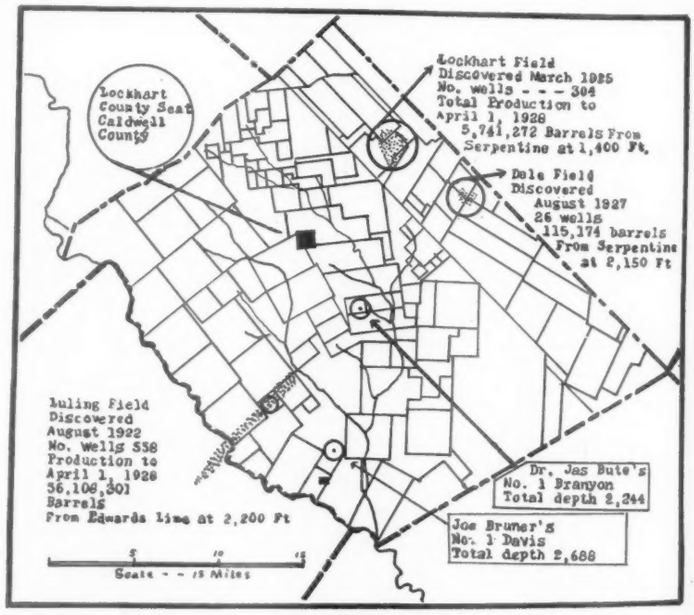
The Rycade Oil Corp.'s No. 1 Chittim in Maverick County got its 28,000,000 feet of gas and 75 bbls. of oil in the Trinity formation. The bottom of the hole was later lost and it sidetracked and is now at 4,400 feet. Its depth where the hole was lost was 5,640 feet. The amount of gas and oil it made and the further fact that it is in the Trinity which is a formation new to oil production in Southwest Texas, makes the further approach to that depth in the No. 2 a matter of keen interest.

Magnolia Petroleum Co.'s No. 1 Garcia in the Schott Field in Webb County at 4,194 feet is fishing for 121 joints of 3-inch drill stem. Since the deepest producing sand in that field is at 1,950 feet this well is virtually wildcat. It has had all sands dry since passing the 1,950-foot sand.

(Continued on Page 142)



Part of Caldwell County, Texas, showing location of Doctor Bute's No. 1 Branyon.


Lockhart County Seat Caldwell County
Lockhart Field
Discovered March 1925
No. wells - - - 304
Total Production to April 1, 1928
5,741,272 Barrels From Serpentine at 1,400 Ft.
Dale Field
Discovered August 1927
26 wells
115,174 Barrels From Serpentine at 2,150 Ft
Luling Field
Discovered August 1922
No. Wells 538
Production to April 1, 1928
36,109,301 Barrels
From Edwards Lime at 2,200 Ft
Dr. Jas Bute's No. 1 Branyon Total depth 2,244
Joe Bruner's No. 1 Davis Total depth 2,688
Scale - - 15 Miles

Map of Caldwell County, Texas.

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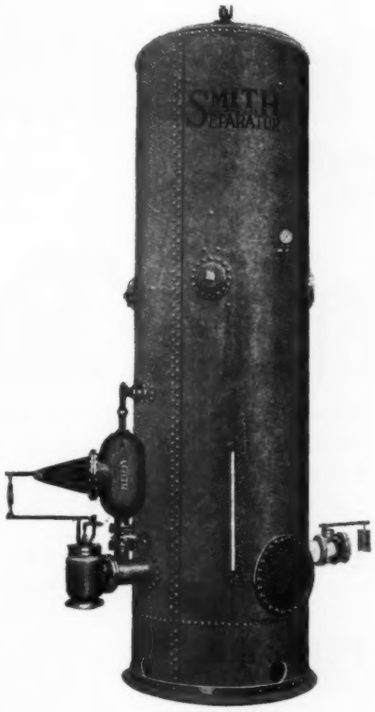

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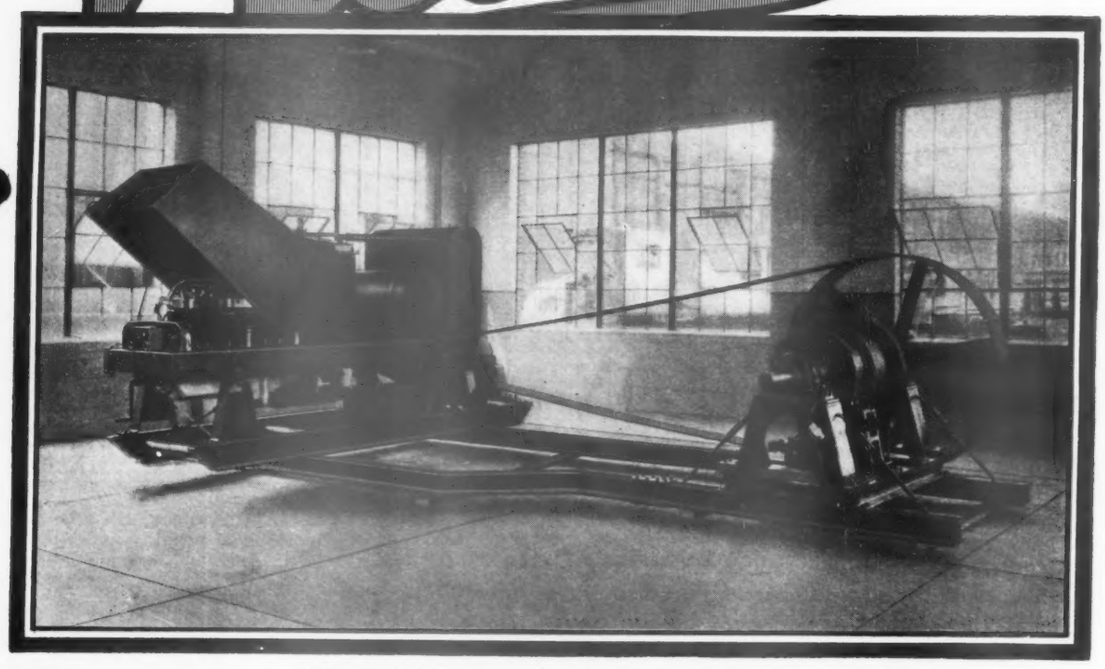

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Cotton Valley Deep Tests Disappoint

One Finished as Gasser and Another Has No Show of Either Oil or Gas. Interest Unabated

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas.

SHREVEPORT, La., Apr. 30.—While they have by no means put a damper on the enthusiasm and renewed interest in Cotton Valley created by Ohio Oil Co.'s two 4,600-foot wells, results obtained so far in Magnolia Petroleum Co.'s No. 1 G. W. Cole, Section 27-21-10, and No. 1 Cox in Section 22-21-10, have Cotton Valley operators guessing. The Cole well is 1¼ miles south of the Ohio Oil Co.'s No. 38 Bodcaw producer and the Cox location is half way between and a little east of the two. Contrary to reports current soon after alternately closing in and blowing the Cole well for a day or two failed to improve its performance, Magnolia decided not to deepen it to try to make a producer, but finished it as a 4,820,000-foot gas well at 4,729 feet, free of water or oil and not quite as rich in gasoline as the Ohio company's No. 2 Crichton, a half mile to the northwest. Magnolia's No. 1 Cox, Section 22-21-10, cored lime, shale and sand at 4,746 feet with no show of oil or gas, the bottom of the core being a formation resembling the oolites of Pine Island's 3,600-foot wells and containing some pyrites. Sand, shale and lime blend into each other with no sharp dilineation between the three and the sand having a dark tinge as if it might at one time have held oil which has long since disappeared, leaving only its coloring matter behind.

At the depth at which this core, the last at this writing, was taken, the hole was 73 feet lower, subsea, than the top of the sand tapped by the Ohio's No. 38 Bodcaw, no trace of which has yet been found in this well, though it is close to the crest of the structure.

Will Deepen

Woodley Petroleum Co., whose No. 1-B Cox, in Section 23-21-10, was the first to give indications of production lower than any yet found in this territory, has gone back to this well and will deepen it in an effort to get commercial production. At 4,737 feet it developed about 40 bbls. of 50 gravity oil, 200 bbls. of salt water and a few million feet of gas. Plugged back to 4,354 feet, it was finished as a 4,000,000-foot gasser and now is drilling out the cement and making another test at the original total depth.

Ohio Oil Co.'s second 4,600-foot completion, the No. 2 Crichton, in Section 21-21-10, completed as an estimated 60,000,000-foot gasser at 4,672 feet, is now producing through one 6-inch line. It gauged something over 54,000,000 feet through the 6-inch with the remainder of the estimated 60,000,000 feet going into the air through 4-inch side gate. The latter has been closed and with the 6-inch gate cracked a couple of rounds or so the well is furnishing around 25,000,000 feet per day to Magnolia Petroleum Co. and Ohio Oil Co.'s gasoline plants, pressure standing at 1,200 pounds. Ohio Oil Co. has moved its gasoline plant from Pine Island to Cotton Valley and is adding to it so as to utilize more of its deep gas, and Magnolia Petroleum Co. also has moved its Pine Island plant to Cotton Valley as an addition to the plant it already had there. Between these two, No. 2 Crichton will be pulled upon to its permitted volume for gas. Meanwhile Ohio Oil Co.'s No. 38 Bodcaw is putting more than 3,000 bbls. of 49-50 gravity oil into the tanks daily, production having dropped since completion at the rate of about 100 bbls. per day with no sign of salt water or b.s. having appeared so far.

Three new locations for wells to the 4,600-4,700-foot horizon in Cotton Valley were made this week, one of them Magnolia's No. 5 S. J. Merritt, in the original Cotton Valley discovery. Section 14-21-10, three-quarters of a mile northeast of the Ohio's No. 38 Bodcaw. This, with Humble Oil & Refining Co.'s No. 2 Webb in the same section, will be particularly interesting as they will be the first tests north and east of the deep sand discovery wells. The Magnolia's No. 5 Merritt is in the southeast of the northeast of Section 14-21-10, and the Humble well is in the SW cor. NE SE. of the same section.

Richland Parish

Richland Parish gas district showed a variety of developments this week. Feazel and others' No. 1 Duff, in Section 21-16-6, was completed at 2,440 feet gauging 53,646,000 feet of gas indicating that the crater of Natural Gas & Fuel Corp.'s No. 1 Thompson to which it is an offset has not had any appreciable effect on the gas-bearing formation up to date, though it has blown in excess of 5,000,000,000 feet of gas into the air since the well went wild over three months ago—enough to supply the entire consumption of Shreveport and all that supplied by Arkansas Natural Gas Co.'s Arkansas line for over a week.

Dixie Oil Co. apparently located No. 1 McCoy, SW SW NE, Section 29-16-6, over a barren spot in the field as at 2,454 feet where production was to be expected it was dry and at 2,482 feet it made only 1,000,000 feet of gas with a little salt water. Drilling is still under way, however, and it may be made a deep test for oil similar to the Gulf Refining Co.'s operations. This well, located well within proven territory, is the first indication that the field may develop scattered barren spots as exist in the Monroe Field, northwest.

Gulf Refining Co.'s No. 1 Millsaps in Section 8-17-6, at 3,477 feet, is in a formation very similar to the oolites which furnished the 3,600-foot production in Pine Island last summer and, according to geological and paleontological opinion, is at about the right level to find this formation though the same authority said the gray lime and shell in which the Gulf well was drilling at this time is not the Pine Island 3,600-foot sand.

Week's Completions

There were three small producers among the week's 15 completions in scattered proven areas yielding 135 bbls. new production. Gassers predominated as usual, 10 completions adding 222,560,000 feet initial open flow. Two of the 10 were in the Cartersville, Magnolia Petroleum Co.'s No. 1 Matlock, in Section 25-23-12, with 33,418,000 feet, 1,035 pounds I.R.P. at 3,075 feet, and The Texas Company's No. 2 Henry Rose, Section 31-23-11, in the southeast corner of proven territory, 35,000,000 feet at the same depth.

Dixie Oil Co. put No. 91 Dillon, Section 14-21-15, on the beam for 95 bbls. clean oil daily, total depth 2,702 feet. The well is a freak and came in three weeks ago flowing 2,270 bbls. from a stray sand maintaining this rate for two days at the end of which it suddenly went dead and failed to respond to swabbing.

In the Monroe district, United Carbon Co. finished No. 1 J. Davis, Section 21-20-4, Morehouse Parish, gauging 28,282,000 feet of gas at 2,148 feet, one of the best of recent Monroe completions, and Pioneer Oil & Gas Co. completed No. 1 Filhoil, Section 11-18-4, Ouachita Parish, with 3,500,000 feet of gas, total depth 2,228 feet.

In addition to Feazel and others' No. 1 Duff, Richland gas field registered Ruston Drilling Co.'s No. 1 Mulhern in Section 19-16-6, as a 48,000,000-foot producer, total depth 2,446 feet.

Two of three completions in Arkansas, all in Smackover, were producers. Little Fay Oil Co.'s No. 6 Robertson, Section 25-15-16, Ouachita County, is pumping 50 bbls. of fluid, 50 per cent water, from 2,067 feet, and F. B. Wood, trustee's No. 1 Spahr, Section 35-15-16, is pumping 20 bbls. of fluid, 25 per cent water, total depth 2,017 feet. It was a second completion, having been finished as a 20,000,000 foot gasser at 2,020 feet by Arkansas-Maricopa Oil Co., November 22, 1922, and cleaned out to 2,017 feet by Wood, who is also drilling a second well on the same lease. National Consolidated Petroleum Corp. has finally abandoned No. 1 Fagg, in Section 8-16-6, Union County, which has been under way for a year. Since last September it has been carried on the records as waiting on standard rig with 200 feet of oil in the hole from 20 feet of sand, total depth 2,643 feet. When the big wind of April 21 came along its derrick was one of the 707 leveled in Smackover, and the well has been dropped as an abandoned hole.

Panola County, Texas, had three small gassers and a failure. Natural Gas Products Co.'s No. 5 T. C. Adams, in the Evans Brackins Survey, made 4,000,000 feet of gas, total depth 980 feet. M. H. Smith and others' No. 2 W. C. Agurs, in the Jacob Womack Survey, tested salt water at 1,091 feet; D. Thomason's No. 5 Crenshaw, in the B. C. Jordan Survey, gauged 3,300,000 feet of gas from the shallow sand at 985 feet, and Beckman and Freeman completed No. 1 S. M. Burns in the Alex Birdsong Survey with 8,000,000 feet of gas at 1,043 feet.

Decline in Production

Effect on production of the windstorm that swept Smackover and other South Arkansas and North Louisiana fields April 21, is apparent in the week's figures for daily average runs from the field, though not to the extent to which it was thought the storm would be felt. Smackover production dropped 6,840 bbls., and Stephens, Nevada and Caddo also showed a decline due in part to toppled derricks. Six derricks in Cotton Valley also went down but how much of the decline in each of these districts may be attributed to the storm has not been figured. Restoration of derricks and pumping equipment is well under way in all fields, however, and runs will probably be back to normal next week.

Daily average runs of 124,975 bbls. were 7,970 bbls. under last week's, the decline in Louisiana being 1,255 bbls. Caddo heavy with 50 bbls. and Pleasant Hill with 40 bbls. were the only Louisiana pools showing an increase, while in Arkansas, Champagnolle, with 485 bbls. was the only pool shipping more oil this week than it did the week before, due to the new deep sand production. Deep sand production in Cotton Valley dropped off 850 bbls. due to natural decline in the one producer. This well, Ohio Oil Co.'s No. 38 Bodcaw, Section 15-21-10, however, maintained an average of 3,625 bbls. per day. Smackover light oil was

(Continued on Page 142)

NEW OPERATIONS IN CHAMPAGNOLLE; DEEPER TESTS IN SMACKOVER AREA

By D. H. Bancroft

EL DORADO, Ark., Apr. 28.—With 12 new operations put under way during the week, either as locations, derricks, rigs or starting drilling, deep sand development in the Champagnolle district of Union County, Arkansas, has the edge on similar activity in Cotton Valley. With new work listed during the week ending April 19 the 12 jobs started this week bring the total to 25 in addition to the wells already under way.

With two wells already producing from the new deep horizon, Magna Production Co.'s No. 2 Rowland in Section 14-17-14, while not listed this week as a completion, is flowing 100 bbls. daily by heads through 2-inch tubing set with packer. Production is coming from 14 feet of sand, total depth 2,974 feet, apparently a stray sand which failed to respond to swabbing though the hole stood 1,500 feet in oil when swabbing began.

Rushing and others were due to have a completion in No. 1 Gregory, Section 11-17-14, at 3,206 feet with the bottom in 14 feet of sand, but when they went in to drill 4½-inch plug with casing set at 3,192 feet, they found cement 500 feet up in the pipe and may have to recement. Meanwhile Magna Production Co. has three new jobs under way around its Dumas wells; Magnolia Petroleum Co. has one in the north, or discovery, end of the field; Ohio Oil Co. has five of which three are in the north end, and Pure Oil Co. has six.

Deeper at Smackover

All this deep development in Champagnolle and the better outlook arising from restriction in Oklahoma, Texas and California is influencing exploration of deeper levels in Smackover, long rumored and discussed as an immediate possibility and a future certainty. Ohio Oil Co., Sinclair Oil Co. and Skelly Oil Co. already are at work on deep tests either from the grass roots or deepening old producers and Lion Oil Refining Co. this week joined the list with No. 3-H Murphy, Section 9-16-15, a completion February 5, 1927, making 1,500 bbls. fluid 93 per cent water at 2,436 feet, and No. 1 Nash, a semiwildcat in Section 6-17-13, just east of the Champagnolle discovery wells. Also, Ouachita Natural Gas Co. is making its first drilling venture in Arkansas with No. 1 Perdue in Section 33-16-14, 3 miles west and a little north of the Champagnolle discovery.

In Nevada County McDonald and others have not given up No. 1 Pelt in Section 9-15-22, southwest of proven territory and just under the fault worked out by Humble Oil & Refining Co. a couple of years ago, although the well has been carried since the middle of January as shut down awaiting orders in the red beds at 2,424 feet. They plugged back to 2,018 feet and after drilling cement had bailed down 1,200 feet when salt water broke in. They figure their bottom plug gave way and will recement for another test. Bruton and others are arranging to abandon No. 1 Red River farms in Section 2-17-26, Miller County, having had no showings down to 3,410 feet, where they are in the red beds. With the history of a dozen or more deep and shallow tests in Miller County to go by, the only prospects for production of either sort in this part of the country appear to lie in still deeper drilling, and geophysical surveys are to be recommended before such is begun.

W. J. Hobby and others, of Shreveport, claim to have located a machine "high" in the vicinity of Rison, Cleveland Coun-

(Continued on Page 141)

Smackover, Seminole and Tonkawa have contributed far more to the petroleum industry than oil. They have shown the close relationship between drilling methods, cementing methods and production. These fields were Halliburton-cemented.

HALLIBURTON OIL WELL CEMENTING CO.
Duncan, Oklahoma

New Mexico Watching Winkler Test

Southeastern Part of State Showing Activity. Phillips Starts Test in Utah. One Salt Creek Completion

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Apr. 30.— Southeastern New Mexico operators are watching with close attention Gibson & Johnson's No. 1 Leek in Winkler County, Texas, which is only 3 miles south of the Lea County line and which will have an important bearing on the New Mexico area. The Midwest Refining Co. and Bordages tests on the Hobbs high have both made some new hole and both are showing gas. Operations have been resumed on the Arena test in Chaves County, the Gypsy Oil Co.'s Lea County test has commenced spudding, and the Texas Production Co. is starting another well in Eddy County.

The Phillips Petroleum Co. has commenced spudding in its Wayne County test in Utah, while other operations show little of interest.

In Colorado, the Indian Petroleum Co. has abandoned its Montrose County test at 5,185 feet; the Coon-Cotton test in Montezuma County is being abandoned; the Union Oil Co. of California is drilling in a producer on the Wellington Dome, and the south extension of the Florence Field had a 150-bbl. completion.

One well was completed in Salt Creek in the first Wall Creek with a production of 116 bbls., and two wells drilling in in the Oregon Basin Pool are flowing by heads.

New Mexico

Operators in southeastern New Mexico are watching with considerable interest the outcome of Gibson & Johnson's No. 1 Leek, C SW, Section 3, Block 74, in northern Winkler County, Texas, which is just south of the Lea County line and not far from the Texas Production Co.'s No. 1 Rhoades, NE NW, Section 22-26-37, and the Marland Production Co.'s No. 1 Eaves, SW NE, Section 19-26-37, both on the New Mexico side. The Gibson & Johnson well was reported in The Oil and Gas Journal last week as having had a show of oil at 2,756 feet followed by a show of gas at 2,851-65 feet. Since then the well is reported to have encountered another gas sand at 2,948-89 feet making 2,000,000 feet a day. At last reports it was shut down at 2,989 feet waiting for materials. The Rhoades well was completed last November at 3,216 feet with an initial production of 22,000,000 feet of gas and 120 bbls. of oil after which it was shut in. The Eaves well is shut down for repairs at 2,840 feet.

The Marland operation hereafter will be carried in the name of the Marland Production Co. following the recent consolidation of the various units of the Marland Oil Co.

The Marland Production Co.'s No. 1 Seideman, SW cor., Section 4-25-36, Lea County, is running 10-inch at 1,735 feet. The hole is bottomed in anhydrite. Its No. 1 Roberts, SW cor., Section 20-23-35, is shut down temporarily at 1,516 feet on account of engine trouble, and its No. 1 Sholes, NW cor. SW, Section 19-25-37, is spudding at 50 feet in the red beds. Cecil Bordages' No. 1 Jennie Hughes, C S half Section 27-19-38, on the Hobbs high near Nadine, which was held up for two months at 3,110 feet by a fishing job following the encountering of gas, succeeded in clearing the hole the past week and resumed drilling. It made 10 feet of new hole when the bailer was blown up the hole by gas and fishing again is in progress.

The Midwest Refining Co.'s No. 1 State, NE cor., Section 9-19-38, 4 miles north of the Hughes test, succeeded in clearing up its second fishing job and has made some new hole. It is running 8¼-inch at 3,055 feet and will bradenhead off the gas encountered at 2,675-2,700 feet, at 2,880 feet and other horizons above present bottom. The gas will be used for fuel. The Gypsy Oil Co.'s No. 1 State, SW cor., Section 34-21-36, has commenced spudding. This test is located on a high that comes out of West Texas. The C. E. Reynolds Drilling Co.'s No. 1 Anderson, C SW Section 29-13-37, is rigging up, and the Curtis Drilling Co.'s No. 1 State, NE SW NE, Section 22-18-34, is waiting for 20-inch pipe to commence spudding. The Inglefield & Bridges' No. 1 State, SE cor., Section 4-17-34, was given another shot of 100 quarts at 4,690-4,708 feet the past week but it does not appear to have materially increased production. A seven-days' test of production was made recently and showed an average of 23 bbls. The Maljamar Oil & Gas Co.'s No. 2 Beardsley, SE NE, Section 15-17-32, is drilling by tools lodged at 4,295 feet after a shot to loosen, and the bit is now 16 feet down beside the tools. The Empire Gas & Fuel Co.'s No. 1 State, NE NW, Section 8-21-35, is drilling at 650 feet in lime.

Eddy County

In Eddy County, Gates, Holman & Rehn's No. 1 Murdock, SW cor. NE, Section 7-21-28, has reached its contract depth of 2,100 feet and so far is dry. It had sulphur water at 1,190-1,220 feet and slight show of gas at 1,370 feet. This test is located about 6 miles southwest of the Getty No. 1 Hinkle in the Twin Mounds district. The Pueblo Oil Co.'s No. 2 Gessert, NE NE NW, Section 1-17-31, is moving in materials. It is about 100 feet west of No. 1 Gessert which was lost at 3,705 feet when gas blew the tools up the hole where they could not be recovered after fishing for several months. The Texas Production Co. has apparently decided to go ahead with its No. 1 Compton, NE cor. SE, Section 9-16-31, located 3½ miles northwest of its No. 2 Robinson as late reports state that cellar is being dug. The Marland Production Co.'s No. 1 Gardner, NE cor. SW, Section 34-23-31, is drilling at 905 feet in red sand. Levers & Carper's No. 6 State, SW NW, Section 3-18-28, is drilling below 1,100 feet. Snowden & McSweeney's No. 1 Lawrence, NW cor. Section 35-20-29, is drilling below 1,430 feet.

Chaves County

In Chaves County, the Arena Oil Co.'s No. 1 Wilkins, NE cor. NW, Section 18-13-31, has resumed drilling after having been shut down for a month upon completion to contract depth of 3,502 feet. New contract has been made and drilling is in progress at 3,530 feet in hard lime. This is the only active operation in the county except Snowden & McSweeney's No. 1 Merchant, NW cor. Section 27-15-23, which is about ready to commence spudding.

In Curry County, Steinberger and others' No. 1, C NE, Section 21-3n-35, is reported dry and abandoned at 3,850 feet.

Gas for Roswell

Construction work on the Pecos Valley Gas Co.'s line from the Vandagriff gas well in NW NW SE, Section 5-17-28, Artesia Pool, to the town of Artesia, has been completed and distributing mains in the town are now being laid. Officials of the company are reported negotiating with the Southwestern Public Service Co. with a view to making a contract to supply the last named company with gas for distribution in Roswell, and is also looking into the feasibility of extending the line to Dexter and Hagerman.

In San Juan County, in the northwestern area, the Midwest Refining Co. is reported building a road to the Stony Butte district in the southern part of the county preliminary to making a test, but if location has been made, the company has not yet announced it. This district attracted some attention last year and the Ohio Oil Co., the Midwest Refining Co. and the Continental Oil Co. were reported to have taken some acreage, but did not go ahead beacuse land speculators are said to have rushed in and put prices so high that the operators did not feel justified in continuing to block up sufficient ground to make the drilling of a test worth while. The only test actually started was H. L. Hall and others' No. 1, Section 18-22-13, which is reported shut down at 350 feet waiting for casing. This well is reported however, to be on a separate high from the one where the other companies were leasing. The Dyke Oil Syndicate's No. 1 Ray, NW NE, Section 19-30-9, in the Blanco district, 3 miles northwest of the Huntington Park well, is rigging up. The Huntington Park Oil Co.'s No. 1 Goede, SE SE, Section 29-30-9, is still bottomed at 4,585 feet where it has been hung up with a lost bailer. The gas from the well is being tested with a view of determining whether it is sufficiently wet to justify the construction of a plant to recover the gasoline. The results will influence plans for future drilling. The Union Oil & Mining Co.'s No. 2 Pine, SE SW, Section 8-29-9, is shut down after being shot at 2,852-2,922 feet and cleaned out. Officials are reported to have decided to abandon the test. It was drilled to 4,030 feet and plugged back and shot in hopes of making a producer out of it, but no quantity of oil showed in the bailer when tested. The Fidelity Oil Co.'s No. 2 James, NW cor., Section 23-29-11, in the Bloomfield area, is drilling at 170 feet. It was started with pipe sufficiently large to make it into a deep test, but present plans are to drill only to the shallow sand. Kirkland Drilling Co.'s No. 1 Hunt, SE NW, Section 10-29-15, in the Fruitland district, is spudding in new hole at 50 feet after skidding rig 18 feet. Co-Ne-Mo Oil Co.'s No. 1 Viles, SE SE, Section 28-29-11, Kutz Canon, has resumed drilling at 560 feet after installing new walking beam. It is now bottomed at 600 feet. The Continental Oil Co.'s No. 17, Section 2-29-19, Rattlesnake Dome, is drilling at 4,940 feet. H. B. Clary, of Duncan, Okla., is reported to have signed agreements with holders of permits on a large acreage in the Blackrock district, 20 miles south of Farmington in Section 25-6n-13w, for a deep test and has organized the Blackrock Oil Co. for this purpose.

Utah

The Phillips Petroleum Co.'s No. 1 Schirk, C NE, Section 16-27s-16e, on the Barrier Creek anticline in Wayne County, Utah, commenced spudding the past week after more than three months of preparation work, including the building of road, moving in supplies and constructing rig in a very difficult country. The Utah Southern Oil Co.'s No. 1 King, Section 13-23-20, on the Salt Valley structure in Grand County, is building rig

(Continued on Page 90)

NEW MADISON LIMESTONE PRODUCER SOUTHWEST OF CALGARY, ALBERTA

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Apr. 28.—In the Turner Valley Field, southwest of Calgary, Spooner Oils' No. 1, LSD 12, Section 13-20-3w5, is producing from the Madison limestone at 4,978 feet. The first production was encountered at 4,930 feet, but the wet gas flow froze; deeper drilling has resulted in what looks, on early tests, like about 40 bbls. per day of crude naphtha, with some 3,000,000 feet of gas. A diamond drill outfit is being secured, when the test will be drilled deeper into the lime; there is a possibility that on continued production the well will make considerably more crude naphtha at the present depth. Spooner Oils' No. 2, Section 24-20-3w5, is partly rigged up, and waiting for boiler and engine. It will spud in early next month for a test of the deep lime.

Vulcan Oils' No. 1, LSD 11, Section 13-20-3w5, is maintaining around 100 bbls. a day production of crude naphtha from the deep lime, after being frozen for some weeks. Vulcan's No. 2, same LSD, is at 4,855 feet and fishing.

Foothills Oil & Gas Co.'s No. 2, LSD 8, Section 1-20-3w5, is reported in production in the Dakota-Blairmore horizon at 2,825 feet. The well at this depth looks like a fair pumper of light crude. It is being cleaned out, and 10-inch casing run, after which it will be given a definite test. Foothills' No. 2 was started originally by Dolomite Oils, Ltd., and was later taken over, with the Dolomite outfit and acreage, by the Foothills Oil & Gas Co., which will carry the test to the deep lime if necessary. Foothills' No. 1, SW, Section 26-20-3w5, in the north end of the field, is redrilling at 3,330 feet, which is within 168 feet of the original depth.

Royalite Operations

Royalite Oil Co.'s No. 13, LSD 6, Section 13-20-3w5, has spudded in, and is reported to have made 140 feet and cemented the 15½-inch casing. Royalite's No. 6, LSD 16, Section 31-10-2w5, is at 4,302 feet and running down the core barrel. Royalite's No. 8, LSD 9, Section 12-20-3w5, is reported at 3,700 feet and drilling. Royalite's No. 9, LSD 6, Section 13-20-3w5, is cemented at 4,086 feet and waiting for the 4-inch pipe. Royalite's No. 11, LSD 10, Section 12-20-3w5, is reported drilling at 2,332 feet. Royalite's No. 15, LSD 1, Section 12-20-3w5, is drilling at 850 feet. Royalite's No. 16, LSD 2, same section, is at 825 feet, and drilling. These two tests were spudded in almost simultaneously, and the race between them is being watched with considerable interest. They have latterly been making around 100 feet a day.

Dalhousie Oil Co.'s No. 6, LSD 10, Section 13-20-3w5, has finished sidetracking a "fish" and is making new hole at 4,861 feet.

Home Oil Co.'s No. 2, LSD 14, Section 20-19-2w5, is drilling close to 4,100

(Continued on Page 137)

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HE-55

Long Beach Continues Upward Trend

Deeper Drilling and Extension of Productive Area Makes Estimate of 200,000 Bbls. Daily for Peak More Reasonable

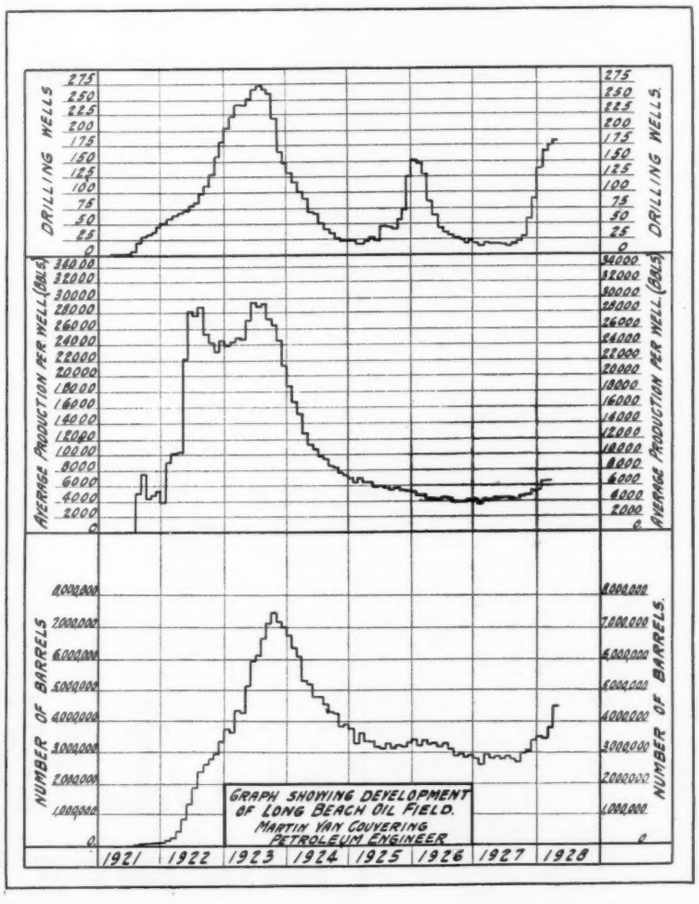
By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Cal., Apr. 28.—Daily production of the Long Beach Field continued its steady upward climb as a result of the completion of the usual weekly quota of new wells resulting from deep-sand exploitation and the present scope of development assures the addition of increased production from week to week, at least during the next 30 days. The 1928 peak at Long Beach is not yet definitely in sight and, while a high of 200,000 bbls. per day looked excessive two months or so ago, this figure may be topped before the present drilling campaign draws to a close. Deeper drilling and the extension of field limits as far as the lower zone is concerned have changed preliminary estimates and subsequent work may cause another slight revision. The Herndon Petroleum Co.'s No. 4 Dabney, which was finished as a 960-bbl. flowing well last week, extended the productive limits of the lower zone several hundred feet southeast and while this will not cause any appreciable revision in early estimates it changes the outlook a little as some of the wells in this area have heretofore been considered somewhat doubtful.

The most important recent development at Long Beach and one which may exert an appreciable effect on future production, is the systematic development campaign which has consistently opened up additional thicknesses of oil sand from week to week. The opinion has been expressed it would not prove advantageous to indulge in deeper drilling on the assumption that the anticipated slightly increased production resulting from this work would not compensate for the additional hole added. This theory has in part been proven fallacious and several deep tests have already been selected, the purpose being to determine the total thickness of oil sand and the potentiality of the additional formation opened up. The Richfield Oil Co. is pioneering this work, although the McKeon Drilling Co. will also do similar exploratory work. The latter has selected No. 1 Deeds as a deep test and this hole, which is located in close proximity to No. 4 Martin of the Shell, which recently came in under a natural flow from 7,060 feet, will be drilled ahead as long as the formation continues favorable No. 6 Denni of the Richfield is probably the most important drilling project under way in the Long Beach Field at the present time as this well, which is located near the apex of the structure, should definitely determine the value of deep drilling. It was rotating ahead a few days ago at 7,403 feet with the bit still in the pay at last reports. The importance of this test lies in the fact that it may change the entire future development work if exceptionally large production is secured.

Drilling Deep Horizons

This deep drilling is especially apropos in view of the fact that the Fernando group, which furnishes a large part of the oil in southern California, contains lower formations than those commonly known and that the upper Miocene or very bottom part of the Fernado is productive. Deep wells at Long Beach, Alamitos Heights, Rosecrans and Ventura Avenue have already produced millions of barrels of oil from the previously ignored basal Fernando, upper Miocene, but now that the true relations are established it seems probable that other deep production will be obtained from fields at present yielding oil only from the upper sands. Attention was directed to this possibility several weeks ago when commenting on the palentological work of G. H. Doane and S. G. Wessler, members of the Society of Economic Paleontologists and Mineralogists, and the proving up of two formations below the Pico may possibly add 200,000,000 bbls. of oil to the total ultimate production of Los Angeles Basin fields. No concerted attempt is being made to develop deeper production in any of the other various fields in southern California at the present time, with the exception of Long Beach, although the Union and Barnsdall are conducting a little deep exploratory work at Rosecrans. The latter company, incidentally, recently extracted a favorable core in No. 9 O'Dea at 6,108 feet and it is logical to assume that this well may develop deep production in as much as E. J. Miley brought in his No. 6 Athens in September, 1925, flowing 1,000 bbls. per day from 7,591 feet. If this deep zone at Rosecrans proves commercially productive, and there is every reason to believe that it will, the Barnsdall and Union will both be handsomely rewarded as these two companies control the major productive acreage in this field.



The recent curtailment in heavy oil production as a result of the inability of California pipe line companies to dispose of the entire production of heavy crude and fuel oil because of increased importations of Venezuela oil has naturally resulted in a diminution of drilling operations. This situation has caused officials of the major California producers no little concern and, from personal contact, I have noted a very determined effort to continue development work, regardless of the fact that this involves heavy expenditures upon which no immediate return is secured, as many new wells drilled are suspended just above the pay and will not be brought in until some future date Practically every large producer in California is following this procedure wherever possible in order to prevent a general layoff of employes which, while it would result in smaller expenditures, would exert a very unfavorable effect on the general economic situation on the Pacific Coast. The Standard has just initiated a six-day policy and all drilling crews of this concern in California fields will be put on a six-day week basis as soon as the change can be made.

Long Beach

One of the most remarkable features incident to the deep drilling campaign under way at Long Beach is the large initial production being chalked up by new wells from week to week and the manner in which these new producers are holding up. It is usually customary for new wells to show a rather rapid decline subsequent to completion but, contrary to the precedent established in other local fields, production of the deep wells at Long Beach is holding up unusually well and the inital output of current completions compares very favorably with the flush production secured during the early stages of development over six months ago. There has been 80 wells put on production in the lower zone since last September, at which time the present deep-sand exploitation got under way in earnest, and a recent check credits the lower zone with a current production of approximately 115,000 bbls. per day, an average of better than 1,400 bbls. per well.

The Richfield Oil Co. carried off completion honors during the past week by bringing in two new wells, although the General Petroleum's No. 5 Jonah Jones, which came in flowing 3,780 bbls. daily from 6,813 feet, was the largest well finished during the period in question. The Richfield's two latest acquisitions were No. 2-A Bernstein and No. 5 Green. The former showed an initial daily production of 2,024 bbls. of clean 30.1 gravity oil and 3,600,000 feet of wet gas daily from 6,179 feet, and this project, which is located in the northwestern part of the field, brought the Richfield Oil Co.'s production at Long Beach up to approximately 31,000 bbls. per day. No. 5 Green, which preceded No 2-A Bernstein into production, showed an initial output of 1,106 bbls. of 29.4 gravity oil and 1,500,000 feet of saturated gas daily from the 6,400-foot level. The Richfield has two other wells nearing completion in this field, No. 6 Denni, a deep test, which is still rotating ahead in the oil sand at 7,402 feet, and No. 1 Hart, which was recently acquired by purchase from A. J. Delaney. The Union Oil Co. has just successfully completed its first big well in the deep zone at Long Beach, No. 20 Long Beach Community coming in under a natural flow doing 3,050 bbls. of clean 30.2 gravity oil and 3,000,000 feet of wet gas daily from 5,850 feet. There are three other potential producers under way on this lease at the present time, one of which, No. 18, should be listed for completion within the next 15 days. The Rainbow Petroleum brought in a satisfactory completion during the past week when No. 12 Dutcher was turned loose from 6,283 feet and, while the initial output, 1,164 bbls., is cutting 10 per cent, it is cleaning up in good shape.

Other Completions

George F. Getty finished his first deep-zone well at Long Beach a few days ago and preparations are being made to bring in two more some time within the next few days. Getty's successful completion was No 17 Long Beach, which showed an initial output of 1,965 bbls. of 30.2 gravity oil from a depth of 6,094 feet. This operator is running eight other strings of tools at Long Beach. Graham & Loftus, who finished their first deep-zone completion several months ago, have just brought in No. 1 Mack Mickelson in the frog pond area flowing 1,770 bbls. of clean 29.9 gravity oil sand and approximately 1,000,000 feet of wet gas daily from 6,110 feet. The California Western Oil Co. recompleted No. 2 Havenstrite & Baker as a 1,990-bbl. flowing well from 6,450 feet and preparations were immediately started to spud in No. 4, which is located at Prospect and Olive Streets.

The General Petroleum killed No. 3 Black & Drake, brought in last week flowing 500 bbls. daily from 6,140 feet, and drilling has already been resumed, the intention being to open up an additional several hundred feet of sand in order to stimulate production. The initial output of this well was rather discouraging, although the indications previous to completion were favorable for normal production. This company is pursuing a consistent drilling program in this field and with five wells below the 6,500-foot level at the present time the outlook is exceptionally promising for a very substantial increase in production some time within the next few weeks.

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Production of the California Petroleum Corp. will probably reflect the completion of several new deep-zone wells in the near future and this company will undoubtedly secure its share of the lower zone production as it is running 15 strings of tools at the present time and has three other rigs in course of construction. The California Petroleum and Shell are the two largest holders of potential productive acreage at Long Beach and both are bending every effort to take advantage of existing conditions. The Shell has 30 wells actually under way at the present time and 14 new rigs in course of construction.

The California Eastern Oil Co. has made good progress since being reorganized by the Federal receivers, Messrs. Carnahan and Scott, and the development work of this company, under the personal supervision of Col. F. E. Foster, should greatly stimulate its deepsand-production at Long Beach. The Federal receivers have just been given permission by Judge Paul McCormack to assume an indebtedness of $200,000 in order to prosecute additional deep sand development at Long Beach. The company is running 10 strings of tools in this field at the present time and unless something unforeseen develops current revenues and the $200,000 now available should prove amply sufficient to carry present and future development work to a successful conclusion.

Ventura Avenue

Development work in the Long Beach and Ventura Avenue Fields has resulted in the shattering of deep drilling records with almost uncanny regularity. Ventura Avenue has heretofore held the distinction of yielding the largest deep-zone wells in California but Long Beach is closely pressing it for honors and will probably supplant the former in the very near future. There are nine wells in the Ventura Avenue Field producing from below the 7,000-foot level and it is quite likely that several more will be brought in from below this point during the course of the next several months. The progress of deep drilling at Ventura Avenue has proven unusually interesting as it has been a case of nip and tuck for some time. The Associated started off the current year by finishing No. 1 Dabney Lloyd as a 425-bbl. well from 7,032 feet but this record was eclipsed in February when the Shell brought in No. 19 Edison flowing 990 bbls. per day from 7,100 feet. The Shell next completed No. 16 Edison doing 1,755 bbls. daily from 7,157 feet only to yield to the Associated a short time later when that company brought in No. 102 Lloyd flowing 3,200 bbls. daily from 7,210 feet during the middle of March. No. 2 Hisey of the General Petroleum, which was finished a few weeks ago, is the deepest producer in this area at the present time, the bottom of the hole being 7,276 feet. No. 51 Lloyd of the Associated, brought in doing 1,725 bbls. daily from 7,100 feet; No. 3 Willett of the Petroleum Securities doing 1,650 bbls. from 7,023 feet, and No. 24 Gosnell of the Shell making 1,850 bbls. from 7,000 feet are other deep wells finished previous to the current week.

The Petroleum Securities added another deep well to its list of producers in the Ventura Avenue Field a few days ago by bringing in No. 4 Orton flowing 825 bbls. daily from 7,108 feet and will probably have No. 2 Orton tanking oil from 7,097 feet before the coming week draws to a close. There has only been one well finished below the 7,000-foot level at Long Beach up to the present time but the depth of this project, No. 4 Martin of the Shell, a recent completion doing 1,850 bbls. daily from 7,060 feet, will probably be surpassed within the next few weeks if the Richfield Oil Co. succeeds in securing commercial production in No. 6 Denni, which is tentatively scheduled to be given a test around the 7,500-foot level. If the latter project results in favorable production it will be the deepest producer in California at the present time as E J. Miley's No. 6 Athens at Rosecrans failed to hold up as a commercial producer from 7,591 feet and is consequently off production.

Ralph B. Lloyd, owner in fee of the Associated's Lloyd lease in the prolific Ventura Avenue Field, has released the Associated from the obligation of drilling up an 11-acre corner of the Lloyd lease in this field, due to a peculiar movement of the earth which renders drilling impracticable because of a probable shearing movement which practically precludes any kind of development on this particular piece of acreage. Portions of the Lloyd lease have sunk from 10 to 100 feet over a period of years and during one season the settling was so pronounced that it left the growing barley in waves like the surface of the ocean. There is no record of any producing wells in this field being damaged because of the settling or shearing of the earth's surface up to the present time but since this movement over a period of years might become an important factor it will undoubtedly be watched very closely. One of the most important developments in the Ventura Avenue Field from a development standpoint was the correlation made several days ago of the M.K.&T. Oil Co.'s No. 1 Foster in the extreme southern part of the district. This engineering work, based on well logs, indicates the possibility that No. 1 Foster may be higher on the structure than wells of the Petroleum Securities to the north instead of being lower stratigraphically as has been generally believed. Sufficient data is not yet available to definitely establish this fact although officials of the M. K. & T. Oil Co. think enough of the possibility to tie up an additional 20-acre parcel still further out on the flank and south of the Foster lease now under development.

Rincon

The Pan American's No. 2 State failed to show commercial production in the deep zone at Rincon when given a preliminary production test during the early part of the week and it is quite probable that drilling will be resumed within the next day or two. E J. Miley will probably make a further test of this horizon within the next few days although the outlook for commercial production is rather unfavorable in view of the failure of the Petroleum Securities to get any kind of satisfactory production from No. 2 State. It is not Miley's intention to waste any time on this 3,950-foot horizon and if commercial production is not secured drilling will be resumed immediately and the well carried down to around the 5,000-foot level unless something exceptionally promising is picked up in the meantime. The Chanslor-Canfield Midway Oil Co. has resumed work on No. 1-B Hobson, which blew in unexpectedly two weeks ago only to sand up later, and this well, which is located in the southeastern part of the field, will be given every opportunity to develop commercial production. On Hobson Lease C, the Chanslor-Canfield interests are chalking up good footage in all four wells under way at the present time.

Kern River

The Brownmoor Oil Co. finished No. 12-A Cauley out along the West Front of the Kern River Field during the past week but, in conformity with the curtailment measures initiated in this field during the early part of April, it was immediately shut in following the production test which showed a potentiality of 220 bbls. daily from the 2,643-foot level. Nos. 11 and 32 on the same property in Section 16-28-27 will be spudded in shortly and carried down to the top of the pay. The California Star will follow a similar procedure with its No. 640, a recent spud in Section 22-28-27. George F. Getty made a production test of No. 6 McDougal in Section 26-28-27 a few days ago and this new well, which pumped 240 bbls. daily from 2,097 feet, was shut in immediately upon completion of the initial production test. The Signal Gasoline Co, which recently finished its first commercial producer in the Mount Poso Field of Kern County, is making preparations to spud in its second well in this area, although it will be shut in upon completion due to the absence of pipe line facilities. The Chanslor-Canfield Midway Oil Co.'s No. 29 in the Midway-Sunset Field, Section 8-32-23, is checking out 50 feet higher stratigraphically than the Republic's No. 25, which came in several weeks ago flowing 1,045 bbls. per day from a heretofore unsuspected lower zone at 2,704 feet. The Republic is making good footage in No. 7, located on property adjoining the acreage on which No. 25 was completed, and preparations are being made to start another hole within the near future. It is the present intention to redrill and deepen No. 1 in Section 6-32-23 and if this new Republic horizon, located around the 2,700-foot level, proves uniform and highly prolific additional work will be undertaken immediately. The Republic has 26 shallow producers available for deepening in addition to a considerable amount of potential undrilled acreage.

Seal Beach

George F. Getty's No. 2 fee, which was carried down to the deep Bonner zone in the Alamitos Heights section of the Seal Beach Field, did not come up

(Continued on Page 137)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well, Location—	S-T-R	Depth	Status
World Pet. Co., No. 1 Inglewood, Los Angeles Co.	28- 2-14	3,772	suspended
Mont. Park Oil Co., No. 1 Browning, Mont. Park	26- 1-12	4,530	set pipe
Shell, No. 2 Mission, San Fernando	4- 2-15	1,342	hd. sd. drilling
Andrews, Otis, No. 1 Lancaster, Los Angeles Co.	23- 8-13	2,120	hd. sd. drilling
Woods, D. H., No. 1 Lancaster, Los Angeles Co.	5- 7-10	Rig	Suspended
Security Pet. Co., No. 1 Lynwood, Los Angeles Co.	13- 3-13	4,711	hd. sd. drilling
Domingues Ext., No. 1 Compton, Los Angeles Co.	27- 3-13	5,510	pipe trouble
San Clemente Oil Co., No. 1 Playa Park, Hawthorne	20- 3-14	5,765	to deepen
Eas on & Smith, No. 1 Calabasas, Los Angeles Co.	19- 1-17	1,042	sd. sh. drilling
Scott & Currier, No. 1 Hawthorne, Los Angeles Co.	33- 3-14	140	suspended
White Behr, No. 1 Watson, Los Angeles Co.	21- 4-14	5,070	sd. sh. drilling
Buttrum, F. W., No. 1 Richfield, Orange Co.	36- 3- 9	4,552	hd. sd. drilling
Ohio Oil Co., No. 1 Anaheim, Orange Co.	9- 4-11	5,170	hd. sd. drilling
The Texas Company, No. 1 Santa Ana, Orange Co.	34- 4-10	.....	location
Prairie Oil & Gas, No. 1 Westminster, Orange Co.	13- 5-11	980	hd. sd. drilling
Kenper, A. D., No. 1 Seal Beach, Orange Co.	10- 5-12	Rig	suspended
Getty, Geo. F., No. 1 Seal Beach, Orange Co.	15- 4-12	5,530	hd. sd. drilling
Shell, No. 1 Stern, Orange Co.	22- 3-10	4,898	hd. sd. drilling
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	2,689	hd. sd. drilling
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	2,980	suspended
Davenport Oil & Gas Co., No. 1 San Marcos, San Diego	30-12- 2	415	hd. sd. drilling
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	580	hd. sd. drilling

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Bolsa Chica, No. 1 Ke.tleman, Kings Co.	30-23-19	3,502	suspended
General Pet., No. 2 Ochsner, Kettleman Hills	28-22-18	6,755	suspended
South Coalinga, Well No. 1 Kettleman Hills	35-24-19	3,110	suspended
Monoline Dev. Co., Well No. 1 Ke tleman Hills	7-21-21	4,308	suspended
McPhail, Hugh, Well No. 1 Kettleman Hills	13-24-18	2,100	suspended
Milham Explin., No. 1 Kettleman, Kings Co.	2-22-17	7,235	sd. sh. drilling
Star Petroleum, No. 2 Canet, Ventura Co.	13- 3-23	5,975	hd. sd. drilling
Standard, No. 5 Sa.icoy, Ventura Co.	14- 2-22	1,700	gr. sd. drilling
California Western Oil Co., No. 1 Elkins, Ventura Co.	5- 3-19	2,250	hd. sd. drilling
Exline, Emma, No. 1 Saticoy, Ventura Co.	33- 3-21	Rig	suspended
Petroleum Sec., No. 1 Bubb, Ventura Co.	26- 5-18	4,560	good show
Parkford, E. A., No. 1 Strathern, Ventura Co.	5- 2-18	4,002	suspended
Shell, No. 1 Strathern, Ventura Co.	6- 2-18	4,730	hd. sd. drilling
American Oil Co., No. 1 Camarillo, Ventura Co.	33- 2-20	175	suspended
Hackworth, J. W., No. 1 Ojai, Ventura Co.	11- 4-23	2,311	hd. sd. drilling
Scott Pe., Co., No. 1 Rincon, Ventura Co.	35- 4-25	3,896	hd. sd. drilling
Shell, No. 3 Grubb, Ventura Co.	26- 2-22	711	sd. drilling
Shell, No. 1 Snodgrass, Ventura Co.	23- 2-22	1,408	sd. drilling
Shell, No. 2 Berlywood, Wor park	32- 3-20	7,180	hd. sd. drilling
Miley Oil Co., No. 1 Red Mountain, Ventura Co.	7- 3-23	980	suspended
McAdams, J. E., No. 1 Buttonwillow, Kern Co.	26-29-23	6,010	abandoning
Milham Explin., No. 1-A Buttonwillow, Kern Co.	8-28-23	4,662	gas well
Milham Explin., No. 2 Buttonwillow, Kern Co.	8-28-23	2,730	gas well
Mi ham Explin., No. 3 Bu tonwillow, Kern Co.	8-28-23	2,694	gas well
Milham Explin., No. 4 Buttonwillow, Kern Co.	5-28-23	2,670	gas well
Milham Explin., No. 5 Buttonwillow, Kern Co.	5-28-23	Mtl.	building rig
Doheny-Stone, No. 1 Salisbury, Kern Co.	7-29-24	4,291	hd. sd. drilling
Southern Calif. Gas Co., No. 1 Buttonwillow, Kern Co.	4-28-23	2,830	tes ing
Southern Calif. Gas Co., No. 2 Buttonwillow, Kern Co.	10-28-23	Mtl.	building rig
Richfield Oil Co., No. 1 Semitropic, Kern Co.	21-26-22	1,620	suspended
Pacific Eastern, No. 1 Union Ave., Kern Co.	6-30-28	5,640	suspended
Pacific Eastern, No. 2 Union Ave., Kern Co.	6-30-28	4,500	testing
Jackson & Chamberlain, No. 1 Bakersfield, Kern Co.	19-29-28	601	sd. sh. drilling
O'Donnell, J. E., No. 1 Greenfield, Kern Co.	31-30-28	3,503	hd. sd. drilling
Superior Oil Co., No. 1 Edison, Kern Co.	24-29-29	3,2[illegible]	abandoning
Stabler, W. W., No. 1 Comanche Poin., Kern Co.	23-32-29	2,260	sd. sh. drilling
Midway Northern, No. 1 Edison, Kern Co.	29-29-30	3,284	hd. sd. drilling
North American, No. 1-A Delano, Kern Co.	5-25-26	5,320	hd. sh. drilling
General Pet., No. 1 McFarland, Kern Co.	35-25-24	Mtl.	building rig
McVey, Max, No. 1 Shafter, Kern Co.	8-28-25	Mtl.	building rig
Fresno Madera Oil Co., No. 1 Clovis, Fresno	18-21-21	4,066	suspended
Texas Pacific, No. 1 Brown, San Luis Obispo	26-32-14	2,420	hd. sd. drilling
Richfield, No. 1 Wreden, San Luis Obispo Co.	10-29-17	3,130	suspended
Richfield, No. 1 Carissa, San Luis Obispo Co.	15-29-17	3,571	br. sh. drilling
Union Oil Co., No. 1 Huasna, San Luis Obispo Co.	34-32-15	1,797	hd. sd. drilling
San Luis Syndicate, Well No. 1, San Luis Obispo Co.	29-31-15	2,901	sd. sh. drilling
Sequoia Oil Co., Well No. 1 San Mateo Co.	13- 7- 5	1,510	hd. sd. drilling
Shell, No. 1 Cowell, San Mateo Co.	8- 6- 5	5,906	to abandon
Shell, No. 2 Cowell, San Mateo Co.	8- 6- 5	Rig	rigging up
Shell, No. 1 Butts, San Mateo Co.	16- 6- 5	2,584	fishing
Shell, No. 1 Mossi, Petaluma	8- 5- 6	1,795	hd. sd. drilling
R. Y. Hanlyn, Well No. 1 Alameda Co.	3- 5- 2	150	sd. drilling
Thomas & Hammill, Well No. 1, Alameda Co.	16- 3- 3	1,070	water trouble
Tepequit Oil Co., Well No. 1 Santa Barbara Co.	3- 9-32	1,970	hd. sd. drilling
Becker, Geo. F., No. 1 Summerland, Santa Barbara Co.	33- 4-25	3,045	testing
Twin State Oil Co., No. 1 Molloc, San a Barbara Co.	20- 4-27	3,610	hd. sd. drilling
Fort Wayne Synd., No. 1-A Goodcell, Madera Co.	22-10-17	Rig	suspended
Continental Oil Co., No. 2 Smith, Colusa Co.	31-18- 4	4,300	cleaning out
Colus Oil Co., Well No. 1 Colusa Co.	31-15- 4	380	hd. sd. drilling
Nuna Oil Co., Well No. 1, Colusa Co.	19-15- 4	348	sd. drilling
Superior Oil Co., No. 1 Calivada, Colusa Co.	31-15- 4	316	sd. drilling
Marland Oil Co., No. 1 Bradley, Monterey Co.	32-24-11	2,780	fishing
North Counties Oil Co., Well No. 2 Humboldt Co.	36- 2- 1	2,110	hd. sd. drilling
Humboldt Oil Co., Well No. 1, Humboldt Co.	6- 3- 1	3,035	hd. sd. drilling
Tuck, J. W., Well No. 1, Santa Clara Co.	9- 8- 1	300	sd. sh. drilling

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This Week	Daily Average	Total Last Week	Daily Average	This Year to Date	Same Time Last Year
Crude oil	.....	.....	80,750	11,536	1,859,261	2,541,416
Fuel oil	.....	.....	.....	.....	.....	3,118,106
Diesel and gas oil	95,024	13,575	75,110	10,730	681,938	1,386,653
Gasoline	213,198	30,457	155,228	22,175	3,321,312	2,649,621
Coastwise—						
Crude oil	476,109	68,016	352,194	50,313	5,780,987	9,373,608
Fuel oil	416,539	59,506	507,368	72,481	6,110,348	4,525,532
Diesel and gas oil	78,950	11,279	6,101	872	432,702	91,636
Gasoline	134,168	19,167	251,747	35,950	3,781,749	2,791,938
Kerosene	.....	.....	1,550	221	24,415	43,103
Tops	.....	.....	.....	.....	171,566	.....
Exports—						
Crude oil	70,900	10,129	75,025	10,718	744,226	1,343,533
Fuel oil	476,866	68,124	586,483	83,783	8,190,548	9,522,968
Diesel and gas oil	50,010	7,144	19,500	2,786	925,358	396,841
Gasoline	70,475	10,068	214,610	30,659	1,536,623	753,547
Tops	.....	.....	.....	.....	.....	227,204
Kerosene	.....	.....	320,682	45,812	1,529,919	950,931

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	342,425	415,555
Gasoline	174,772	24,967	75,460	10,780	813,509	890,088
Lubricants	.....	.....	.....	.....	138,679	111,970
Coastwise—						
Fuel oil	77,859	11,123	48,486	6,927	1,174,866	2,078,493
Diesel and gas oil	.....	.....	10,450	1,493	98,436	134,308
Gasoline	234,089	33,441	114,044	16,292	1,229,971	1,721,764
Kerosene	2,417	345	.....	.....	75,640	59,161
Exports—						
Crude oil	.....	.....	.....	.....	25,029	.....
Fuel oil	75,310	10,773	64,872	9,267	730,162	752,987
Diesel and gas oil	.....	.....	.....	.....	10,400	.....
Gasoline	162,933	23,278	55,100	7,871	1,437,445	1,368,702
Kerosene	.....	.....	24,987	3,570	307,089	510,187
Lubricants	.....	.....	.....	.....	.....	9,120

Allen Dome May Be New Coastal Pool

Commercial Production Found in Completion by Roxana Petroleum Corp. Good Wells Found in South Louisiana

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Apr. 30.—Prospects for another Gulf Coast Field on the Allen Dome, southern Brazoria County, received material encouragement the past week when Roxana Petroleum Corp. brought in a well, its No. 4 Allen, flowing 702 bbls. of pipe line oil daily. The oil, testing 33 gravity at 31 degrees, is from a sand at a total depth of 5,109 feet. Although oil and showings of oil have been found in other tests drilled at Allen Dome, this well is the first to show production of particular importance. Four other wells have been brought in on the dome spraying small amounts of oil but none has made what might be termed a successful completion and only one still is producing, that being No. 1 Allen pumping between 25 and 30 bbls daily.

Roxana brought in another well, No. 1 Random, the first of the month which sprayed as high as 64 bbls. of oil at times, but this also has stopped flowing and Saturday was drilling through the back pressure valve to deepen, its sand being at a total depth of 4,942 feet.

All production so far developed at Allen Dome has been from deep sands and the wells have been marked by heavy gas volume and large rock pressure, nearly all first coming in making only dry gas.

Allen Dome was discovered in 1925 by the torsion balance. The Roxana, owning virtually all the acreage, has been prospecting consistently since then first with shallow geological tests and then with the deep tests.

Louisiana Completions

With the exception of Gulf Refining Co.'s No. 6 United at Sorrento Dome, Ascension Parish, Louisiana, new wells in the coastal territory were of little interest as most of them were inside older fields. However, at East Hackberry, Cameron Parish, Louisiana, Calcasieu Oil Co. found small production in a deeper sand at 4 209-14 feet when it deepened its No. 2 Caldwell, which came in Thursday flowing 250 bbls. net oil with about 370 bbls. of water. This well, the discovery well of the Hackberry Dome, originally was completed in sand at 3,971-96 feet flowing 1,000 bbls. of pipe line oil

Gulf Refining Co.'s new well at Sorrento, the second producer on that dome, which was brought in last Monday flowing between 900 and 1,000 bbls. of pipe line oil has been shut in since its completion The discovery well, No. 4, also has been shut in for the past month, both pending completion of a 2-mile line to loading racks being built at McElroy. At Sorrento, Gulf is building a derrick for its seventh test, which will be 250 feet south of No. 6.

Coastal Completions

Completions the past week, in addition to those previously mentioned, included:

Pierce Junction—T. G. Shaw's No. 2 Fitzsimmons, flowing 1,500 bbls., 4.432 feet; Moody corporation's No. 1 Cooper (Calvert), flowing 1,280 bbls. 27 gravity oil through half-inch choke, 4,743 feet, and Rio Bravo Oil Co.'s No. 8-B Settegast, 100 bbls. 37.9-gravity pipe line oil, 3,327 feet. The latter originally was drilled to 3,337 feet into salt.

Sulphur (La.) — Union Sulphur Co.'s No. 723 feet, 1,800 bbls. pipe line oil, 3,279 feet

Nash Dome—Ryeade Oil Corp.'s No. 23 Wisdom, 800 bbls. (increased to 1,000 bbls., 4,144 feet.

Blue Ridge—Gordon & Sharp's No. 2-C Blakely (old well deepened), flowed 1,830 bbls., 1,956 feet; Cunningham Production Co.'s No. 1 Blakely (old well deepened), pumped 175 bbls., 3,125 feet.

Vinton (La.)—Vinton Petroleum Co.'s No. 62 Gray, pump 75 bbls., 2,372 feet.

Goose Creek—W. C. Turnbow's No 6 Trader (old well deepened), pumping 50 bbls., 85 per cent water, 2,362 feet, and Humble Oil & Refining Co.'s No. 51 Gaillard 25 acres (old well deepened), pumping 100 bbls., sand 2,110-44 feet.

High Island — Gulf Production Co.'s No. 2-A Smith (old well deepened), flowing 250 bbls., 2,947 feet.

Batson — Capitol Oil Co.'s No. 10 Hodges, pumping 200 bbls., 3,893 feet.

Ryeade Oil Corp. abandoned two tests during the week, these being No. 13 Nash at Nash Dome, Fort Bend County, which drilled into heaving shale below 4,900 feet, and No. 13-E State (Cow Bayou), at Orange, which had drill stem stuck at 5,687 feet.

Early in the week, Calcasieu Oil Co. abandoned its No 1 Dorion at East Hackberry, Cameron Parish, after drilling to 5,144 feet. Blakely & Means have abandoned their No. 1 Blakely at Blue Ridge, an old well deepened to 3,540 feet, while Gulf Production Co. abandoned its No. 39 Davis at Big Creek, another old well deepened to 4,062 feet. Yount Lee Oil Co. has abandoned its No. 1 Crowley at Jennings, Acadia Parish, Louisiana, going into rock at 3,140 feet.

Gulf Coast fields registered a gain of 5,501 bbls. in the daily average production the past week, most of this increase being attributed to Blue Ridge, where a string of good wells has been completed in the past two weeks. Another substantial gain was shown at Sulphur, Calcasieu Parish, Louisiana, which also has added two good wells. Nash Dome, Boling and Hackberry increases were noticeable and a number of fields showed minor gains. Daily average production was:

Gulf Coast

Spindletop	37,424
Saratoga	1,124
Batson	1,495
Goose Creek	7,308
Sour Lake	3,437
Hull	10,518
Big Creek	1,378
Dewalt	250
West Columbia	8,371
Humble	3,379
Pierce Junction	10,976
Blue Ridge	8,815
Markham	225
Orange	4,830
Damon Mound	935
Dayton	291
South Liberty	3,271
High Island	200
Moores Field (Orchard)	103
Boling	2,264
Nash Dome	2,400
Barbers Hill	600
†Allen Dome	94
Vinton	4,552
Starks	222
Edgerly	938
Evangeline	1,150
Lockport	4,778
Sweet Lake	0
Sulphur	2,145
Hackberry	1,585
*Sorrento	0
Bayou Bonillion	200
Anse La Bute	55
Miscellaneous	41
Total this week	125,421
Total last week	119,920
Increase	5,501

*Production shut in except for short period.
†Does not include production of well completed late Friday.

Changes in production of Southwest Texas and East Central Texas fields were slight, the daily average for the week being:

Southwest Texas

Somerset	2,171
Lytton Springs	1,382
Dale	1,178
Luling	13,920
Miscellaneous	7,955
Total this week	26,606
Total last week	26,589
Increase	17

East Central Texas

Mexia	7,327
Cedar Creek	620
Nigger Creek	710
Currie	494
Wortham	1,885
Richland	534
Powell	11,667
Total this week	23,237
Total last week	23,318
Decrease	81

Boling Field

In the Boling Dome of Wharton and Fort Bend Counties, the following tests have been completed or abandoned since the first of the month but have not been included in previous reports, most of these being sulphur tests:

Benson & Abercrombie's No. 5 Waytek, initial production 3 bbls., well now making salt and sulphur water, total depth 444 feet; Gulf Production Co.'s No. 3 B. R. Abendroth, 430 bbls. 25.4 gravity pipeline oil, 1,486 feet; Gulf Production Co.'s No. 4 W. F. Abendroth, 250 bbls. 24.5 gravity pipeline oil, 1,467 feet; Patterson and associates' No. 3 Bay, abandoned, 426 feet; Texas Gulf Sulphur Co.'s No. 8 Chase, abandoned in gyp, 1,140 feet; No. 9 Chase, abandoned in gyp 1,840 feet; No. 1 Coulter, abandoned in gyp, 1,180 feet; No. 1 H. F. Farmer, abandoned in salt, 1,235 feet; No. 2 Kostelink, abandoned in gyp, 820 feet; No. 1 Sitta, abandoned in gyp, 1,050 feet; No. 2 Urkert, abandoned in gyp, 675 feet; Union Sulphur Co.'s No. 1 Looper, abandoned in gyp, 939 feet; Weed-Gayle Oil Co.'s No. 10 Keller, 150 bbls. pipe line oil, 432 feet; No. 14-A Bay, abandoned, cap rock, 498 feet; No. 15-A Bay, abandoned, cap rock, 468 feet; 16-A Bay, abandoned, salt water, 438 feet; No. 18 Feltz, abandoned, salt water, 441 feet; No. 19 Feltz, 144 bbls., 424 feet.

At East Hackberry, Cameron Parish, Louisiana, Calcasieu Oil Co.'s No. 3 Caldwell, which was brought in two weeks ago flowing approximately 1,200 bbls. of net oil, has dropped off to practically no production and is to be deepened. This company also has a location for its second test on the Dorion property, the first having been abandoned early last week after drilling to 5,144 feet.

Lost Lake Tests

Pure Oil Co. is rigging up for two more tests on the Lost Lake Dome, northern Chambers County, Texas, these being Nos. 1 Lost Lake and Trinity River. No. 1 Lost River, the first test, which has been bailing only a little salt water from sand at 3,671 feet, probably will be deepened.

At Raccoon Bend, Austin County, Humble Oil & Refining Co.'s No. 1 Wilson is drilling at 3,985 feet. No. 1-A

(Continued on Page 145)

SOUTHEASTERN OHIO FIELD CONTINUES TO LEAD IN EAST

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Apr. 30. — Perry County, southeastern Ohio, is the most active section in the Eastern fields and shows development work increasing. It has more wells drilling and starting and is furnishing most of the new production. The current month will show that Perry County will have furnished more new production than all other districts in the Eastern fields combined.

During the week the West Virginia fields did not furnish an oil producer that had an initial production of 25 bbls. Three-fourths of the wells completed came in gassers or dry holes.

Best Wells for the Week

Scott Howell and others completed and shot in the Clinton sand a test on the Burley-Winter farm, in the southwest quarter of Harrison Township, Perry County. It produced 245 bbls. the first 24 hours after shot. The total depth of the well is 3 495 feet. In the northwest quarter of Section 34, Coal Township, the Chartiers Oil Co. completed and shot in the Clinton sand No. 208 on the Hocking Valley Products Co.'s property. It produced 26 bbls. the first 24 hours.

In the southwest quarter of Section 14, Perry Township, Coshocton County, the Preston Oil Co. completed in the Clinton sand a test on the R. E. Van Winkle farm. It produced 140 bbls. the first 24 hours after shot.

In the northeast quarter of Section 49, Stormsville Township, Cuyahoga County, George Beriswell has completed in the Clinton sand a second test on the R. M. Ashley farm. It placed 60 bbls. to its credit the first 24 hours and is the best well completed in that locality.

The Wittmer Oil & Gas Co.'s test on the Jennie Nelson lot, in the northwest quarter of Section 21, Harrison Township, Perry County, flowed 30 bbls. the first 24 hours after shot.

In the northwest quarter of Section 21, the Wisher Oil Co. has completed at a total depth of 3,710 feet its test on the R. D. Brown farm. It is a duster and will be abandoned. This is the first duster encountered in this quarter of the section.

In Washington Township, Monroe County, the Gold Crown Oil & Gas Co.'s No. 3 on the S. N. Christ farm is a very light pumper in the Keener sand. In Wayne Township, T. J. Kremer & Co. have a 2-bbl. pumper in the Big Lime at No. 11 on the G. D. and J. P. Cree farm. In Monroe Township, William McClure and others have completed a test on the Schalbaugh farm and it is dry.

In Jefferson Township, Noble County, Joseph Sailing and others have a 10-bbl. pumper in the Germantown sand at No. 5 on the Caroline Brotton farm. In Elk Township, B. C. Robinson and others have a rig up on the Catherine Young farm.

In Rush Creek Township, Fairfield County, Frank C. Linton has drilled in a test on the E. B. McCullough farm showing for a 10-bbl. pumper. In Section 14, O. C. Sloan & Co. are drilling a test on the E. B. McCullough farm. In Section 19, Reading Township, Perry County, the Wiser Oil Co. and others have a rig up on the John Eyman farm.

Duster in Jefferson County

In Cross Creek Township, Section 1, Jefferson County, Meeder & Co.'s test on the Robert Penwell farm is a duster in

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Promising Field in Ashland County

Jeromesville District Attracting Attention to Shallow Berea Production. Thirteen Completions in Central West

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Apr. 30.—Thirteen completions were recorded in the Central West Field for the week, comprising the Lima Field, Central Ohio, Indiana and Illinois, the feature completion being on the Kimmett farm, in the Tiffin Field in Seneca County, Ohio, with an initial production of 80 bbls. The Cleveland Field in Cuyahoga County, Central Ohio area, has a test that produced 15 bbls. initial, while a test on the Zelno farm, in the Lima Field, showed 25 bbls. new production in 24 hours. There were 54 old wells pulled out and abandoned in the Lima Field. Better weather conditions should bring about some additional development in all areas of the Central West Field.

Lima Field

Tiffin is now attracting attention due to the bringing in of a 400-bbl. well by J. H. Murphy & Son on the John Swartzmiller farm, Section 28, Liberty Township, Seneca County, not far distant from the 80-bbl producer drilled in a few days ago by T. G. O'Brien on the Joseph Sentelbatch farm, same section. The Swartzmiller started flowing as soon as the oil pay was struck in the Trenton sand and having a nice gas pressure, started at 20 bbls. an hour and for the first 24 hours showed an initial production of 400 bbls., being the largest producer found in the Trenton Rock area of the Lima Field for a long time. Two 100-bbl. tanks and one 250-bbl. tank are on the lease and have been connected to the Buckeye Pipe Line Co. After a steady flow the oil showed just a little off color, meaning that it also has a heavy salt water pressure back of it, but this is often found in the Tiffin Field. The well is between the towns of Cromers and Bascom, north of Tiffin and south of Bettsville.

This field was opened by Murphy & Son when they drilled a test on the David Hunker farm, considerably over a year ago. No. 2 on the Hunker farm, now over a year old, produced 30 bbls., but after given a shot produced 75 bbls. and is said to be holding up almost to its best production. The Hunker farm is in Section 21 and not far from the new well, nor any great distance from the good well on the Jacob Kimmett farm, drilled recently by the Murray Valley Oil & Gas Co., which had an initial of 70 bbls., and is said to be holding at around 50 bbls.

T. G. O'Brien's well, 200 feet from the north line and 800 feet from the east line of the Sentelbatch farm, in the SE Section 28, Liberty Township, Seneca County, north of Tiffin, tapped the sand at 1,334 feet and went to a depth of 159 feet in the Trenton to a total depth of 1,493 feet. Given a shot, it had an initial production of 80 bbls. No. 2 on this lease is being started. In Section 29, same township, Duncan, Roose and Milligan's test, 200 feet from the north line and 600 feet from the east line of the Dora Brubaker farm, in the southeast quarter of the section, struck top of Trenton at 1,385 feet and went 148 feet in the sand to a total depth of 1,533 feet and landed a duster. The Brubaker farm appears on the oil map as the P. Stuckey farm. Two other wells are drilling in this township, one by J. H. Murphy and Son, No. 4 on the Dave Hunker farm, Section 21, and No. 1 on the John Snyder farm, same section. McCray, Gibson and others are drilling No. 1 on the Joseph Kimmett farm, Section 21. In Jackson Township, same county, to the southeast of Rising Sun, Irvin Waltermier is drilling No. 2 on his own farm, Section 20.

Northeast of Lima, in Bath Township, Allen County, W. W. Bolz drilled a test in the northwest corner of the Steve Zelno farm, on the oil map as the William F. Landis farm, in the NE Section 14, which produced an initial of 25 bbls. Sand was found at 1,327 feet and drilled 47 feet into the sand. B. L. Carman and others' No. 3 well, 250 feet from the south line and 900 feet from the west line of the William H. Hall farm, in the SE Section 13, same township, tapped the top of the sand at 1,352 feet and at 51 feet in the sand showed an initial production of 10 bbls. under pump.

Wood County

In Wood County, Troy Township, Charles F. Zeising and others' test, 600 feet from the south line and 200 feet from the west line of the Jim Briggs farm, in the NE Section 17, came in a dry hole. Sand was found at 1,234 feet and a heavy dose of salt water at 50 feet in the sand. Lantz, Schulte and others are drilling a test on the Fred Schulte farm, Section 1, same township, and Charles F. Zeising and others are starting a wildcat on the Otto Brim farm, Section 27, Lake Township, same county. In Montgomery Township, in what was known as the Prairie Depot Field, same county, the Ohio Oil Co. abandoned Nos. 2, 4, 5, 6 and 7 J. Dickens farm, Section 23; No. 6 G. W. Lamb farm, same section, and Nos. 3, 4 and 5 on the F. E. Palmer farm, Section 20. In Freedom Township, same county, C. R. Arters abandoned No. 8 Loy Henline farm, Section 25, and Hattie B. Gebert and others' No. 4 on the F. William Damon farm, Section 26.

In the Findlay end of the field in Hancock County, Herman & Bower drilled a light gas well in a test 100 feet from the south line and 1,000 feet from the west line of the John Hayes farm, on the oil map as the Frisbee farm, in the NE Section 30, Marion Township. Top of sand at 1,115 feet and gas at 140 feet in the sand, at a total depth of 1,255 feet. In this township, the Ohio Oil Co. abandoned Nos. 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 and 28 on the A. Kraus farm, Section 11, also No. 22 on the D. Sherrick farm, Section 16. In Allen Township, same county, the same company abandoned Nos. 7 and 14 on the S. R. Huntington farm, Section 24. In Liberty Township, the same company pulled out Nos. 4 and 9 on the P. J. Reimund and No. 13 on the H. P. Clark farm, Section 3, while S. E. Price abandoned three old gas wells Nos. 7, 9 and 10 on the T. G. Barnhill farm, Section 11. In Portage Township, same county, the Ohio Oil Co. abandoned Nos. 1, 2, 4, 5 and 6 J. H. King farm; Nos. 2, 8 and 13 J. M. Cusac farm, Section 33, and No. 5 on the G. A. Mitchell farm, Section 34, while L. D. Langmade pulled out No. 7 on the E. DeRodes farm, Section 4, same township.

Sandusky County

In Jackson Township, Sandusky County, B. J. Rinebold abandoned Nos. 3, 4, 6 and 8 on his own farm, Section 30, and the Jackson Oil Co. abandoned No. 3 on the T. J. Jackson farm, Section 16. In Scott Township, W. E. Dalton pulled out old No. 1 on the A. Putnam farm, Section 31, and in Woodville Township, the Sandwich Brothers Drilling Co. abandoned No. 2 on the Standard Lime & Stone Co.'s property, Section 22.

Recently leasers have been reported working south of Maumee Bay and Lake Erie, in both Lucas and Ottawa Counties, also in the vicinity of Grand Rapids, west of Toledo, in Wood County, as well as between Woodville and Toledo in Wood County, and along the Maumee River between Perrysburg and Grand Rapids, where possibilities are good for average producing wells.

Nothing new has transpired in the field northwest of Toledo, near Deerfield and Dundee, in Monroe County, Michigan, but something like 30,000 acres have been taken under lease in Monroe and Lenawee Counties, which adjoin each other.

A very interesting oil development is under way in Ashland County that is attracting much attention, due to the fact that the crude is found in the shallow Berea sand and covers a wide territory. The center of the new development is around the small inlet hamlet of Jeromesville along the line of Perry and Mohican Townships, about 4½ miles south and approximately 8 miles east of Ashland, the county seat. Surrounding the late development many wells have been drilled for gas to the deep Clinton sand and oil showings in the drilling through the Berea sand were found in practically all the deep wells drilled in that vicinity, and it is due to these showings that much activity is being made in drilling and securing leases at present.

Work in the new Jeromesville Field is going forward at a steady pace. This new field, recently opened up by Robinson Brothers, has all the earmarks of covering a large area and operators and scouts are arriving daily. It is estimated from 400 to 500 oil men have been in the field in the past several weeks securing any available leases. The production is found at a depth of from 500 to 650 feet, with as high as 117 feet Berea sand. The oil is Wooster grade and the Illinois Pipe Line Co. is taking the oil from the field, trucking it to its storage tanks at Wooster. The pipe line company was making a small charge per barrel for transporting the oil, but this charge has just been taken off and full Wooster grade price is secured by the well owners. There is a reliable rumor that the Illinois Pipe Line Co. will lay a line at once into the new field from its trunk line, which runs only a few miles to the south of the Jeromesville production.

Seventh Producer

The seventh producing oil well in the new field has just been brought in by Harmon, Geiger & Watts of Mansfield in their No. 1 on the J. M. Wolf 148 acres, in the NW Section 3, Mohican Township, Ashland County, one-half mile east of the good wells on the Joseph McFadden and William Hare farm, on the north side of the highway running east from Jeromesville, and about 3 miles from the town. This well topped the Berea sand at 559 feet, going to a total depth of 625 feet, with 66 feet of sand. After a shot the well made 20 bbls. initial production. Same parties have moved 800 feet north on the same lease and starting their second well.

F. M. Rugg and I. C. Robinson are drilling at No. 1, a wildcat, on the David Leidigh 160 acres, in the SE of Section 30, Mohican Township, about a mile south of the Oak Grove School, 4 miles south and one-half mile west of Jeromesville and slightly over a mile northwest

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WESTERN KENTUCKY KEEPS BUSY; NEW WEBSTER COUNTY PRODUCER

By Whit
Staff Correspondent, Kentucky-Tennessee

OWENSBORO, Ky., Apr. 30.—Development work is making a better showing in the western division of Kentucky and wildcat work continues in many different directions from production. The latest important find was made by Dave Browning & Son on the Griffith farm, west of Sebree, in Webster County, and far in advance to the west of the Daviess and Ohio County production. This well drilled in a heavy gas producer, which later developed into what is showing for a nice oil well, from 25 to 50 bbls., and possibly may be larger when completed.

According to reports the outstanding producing well in Kentucky at this time is that brought in by Leeper Oil Co. and others on the Pete Mahloskey farm, a couple of weeks ago in Daviess County, and much better than first reported. This well is said to have produced five days straight pumping 350 bbls., each 24 hours for that period, and although the longest stroke pump, with the fastest motion that could be developed, has been in constant use, the oil has never receded lower than 150 feet in the casing. There is some talk of putting in a larger string of tubing and rods to accommodate the volume of oil which the well seems able to produce. This is, without doubt, the best well so far found in Daviess County and will bring about an active development on all sides of the Mahloskey farm. There were 38 feet of pay sand drilled through in this gusher.

Daley & Lowman also made a big strike in No. 3 well on the south 100 acres of the Bob Hamilton farm, in the Ambrose Pool extension to the southeast, which produced 100 bbls. in six hours. The north 176 acres of the Bob Hamilton farm has two new wells in rated at 100 bbls. each, while two wells completed on the Cora Wells farm, same pool, and in Ohio County, are rated as good for 100 bbls. each. The weather is somewhat improved and when the roads are dry so that heavy material can be hauled over them a number of new wells will be started, both in defined territory and in advance of production.

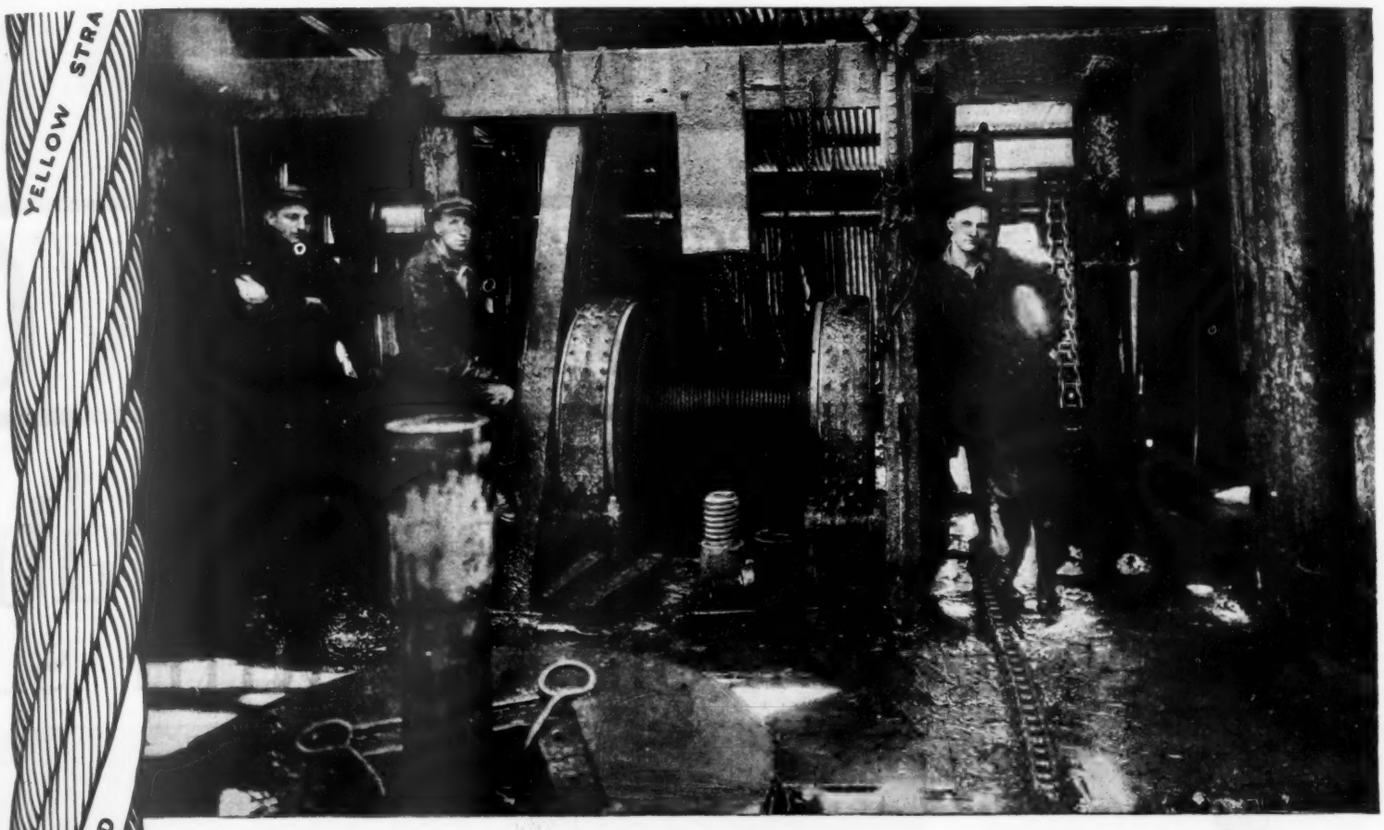
Testing Out Pipe Line

The new pipe line constructed by James C. Ellis, known as the Producers Pipe Line Co., was being tested on Wednesday and if approved, pumping will be continued until the storage tanks are filled, when they will be emptied by gravity into barge tankers on the Ohio River, a short distance from the storage tanks. The tankers will convey the oil to the Louisville Refining Co.'s plant on the river near the Ford plant in Louisville.

The trunk line starts at Taffy, in Ohio County, where the pumping plant and gathering tanks are located, and is pumped from there to the storage tanks on the Glenmore Switch, a mile east of Owensboro, two tanks of 37,500 bbls., each. The barge tankers will carry 37,500 bbls. each and with the stage of the river at a sufficient height because of the canalization of the stream there should be no difficulty in using the river to the plant in Louisville. However, should there arise anything to prevent navigation on the river, the proximity to the railroad will permit of loading the oil on rail tanks for transportation. The line from Taffy to the storage tanks at Glenmore is 22 miles.

James C. Ellis now has 54 producing wells, and the line has a daily capacity

(Continued on Page 130)



Good for Another Deep Hole

This old Yellow Strand Line has already handled the casing in two holes. It stretched 24 inches while pulling 2200 feet of 6¼-inch casing. And was still in good condition after that.

Elastic-strength accounts for the remarkable vitality of Yellow Strand Rotary Drilling Line. Flexible, too; bears up under high-speed bends over sheaves and drum. Time saved is money saved. Specify Yellow Strand Rotary Drilling Line.

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Yellow Strand Rotary Drilling Lines

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A Portable Diesel Cabl

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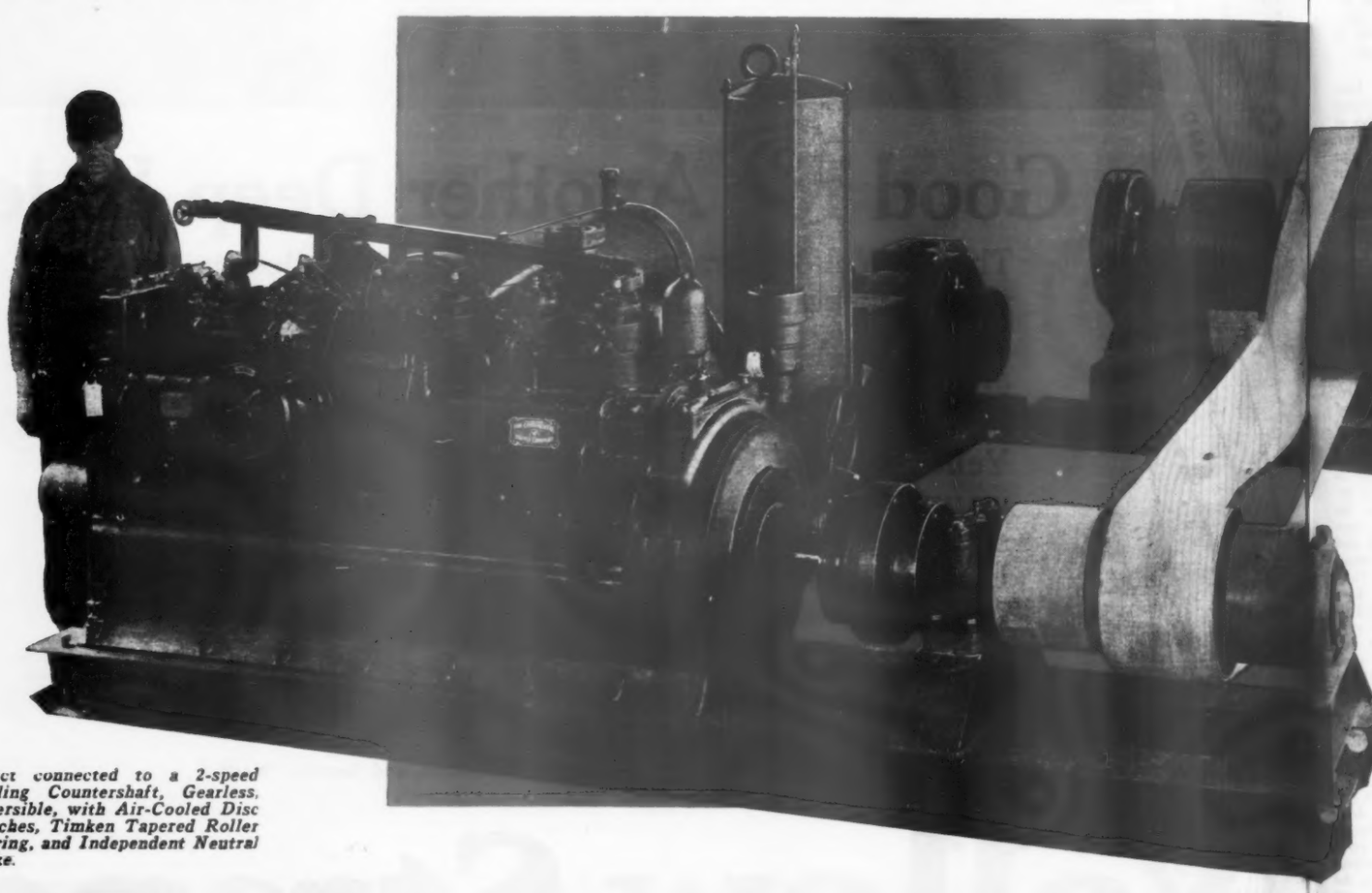


Direct connected to a 2-speed Drilling Countershaft, Gearless, Reversible, with Air-Cooled Disc Clutches, Timken Tapered Roller Bearing, and Independent Neutral Brake.

CONTIN

KS-MORSE

E

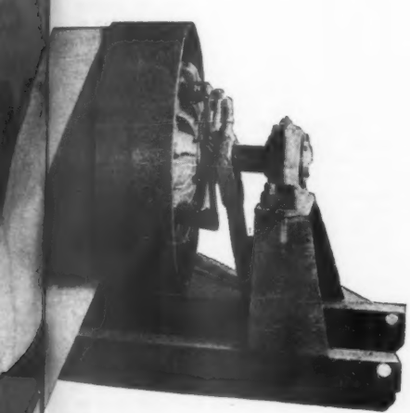
be Tool Drilling Unit—

SELECTIVE DRILLING MOTION CONTROL

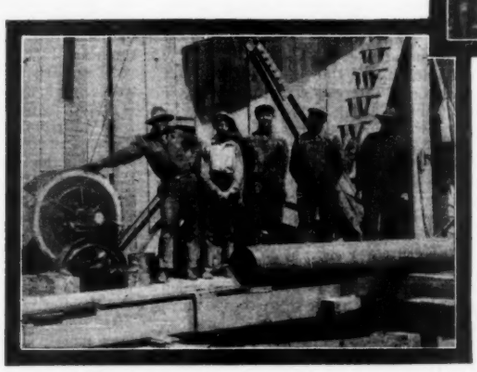
The announcement of a cable tool drilling engine that operates *on crude oil*—and thus accomplishes *tremendous fuel savings*—will be welcomed by the Industry. CONTINENTAL is pleased to announce such an engine as an addition to the Fairbanks-Morse line.

This new engine operates on crude at an approximate cost of only $2.25 daily, whereas the cost on other fuels to obtain the same power will run as high as $20.

Another unique feature of distinct value is the fact that a *perfect drilling motion* has at last been achieved in an internal combustion engine. Investigate the manner in which this remarkable new unit handles all drilling operations. Literature on request.



Speed Control Wheel and Selective Motion Control Dial on headache post, operating governor which instantly varies the speed of the engine through its entire range, and also instantly varies the motion to suit the special requirements of the job. Eureka, Kansas field.



This drilling crew is operating an F-M Diesel Drilling Unit near Vernon, Texas.

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Permian Basin Production Practices

Interesting Data on Drilling and Methods Employed in West Texas Fields Presented at Meeting of Engineers

By F. S. Seeley[1] and Clyde V. Temple[2]

The portion of West Texas in which Permian Basin production might be encountered covers an area of 38,500 square miles.

West Texas has 10 separate oil fields, 6 of which are major fields, and 2 of which if allowed to flow open, would easily surpass one-third of the present daily production of the United States.

The oil of the West Texas Basin is usually found in the upper part of the dolomite section varying from nothing to 600 and 700 feet below the top of this formation. The porous beds which here allow accumulation are of several types. Some are sandy, some oolitic and others cavernous. These porous horizons are more or less continuous over the entire basin, thus, when not oil productive they are often water bearing, giving rise to artesian sulphur water wells in some instances. This water head is highly influential in causing the oil wells to flow as illustrated by poorer wells, which, upon the exhaustion of the oil, continue to flow water.

On March 5, 1921, a rank wildcat well was completed in West Texas in Mitchell County as a 10-bbl. producer. Subsequent Mitchell County wells were usually 50 to 100-bbl. pumpers. On June 5, 1923, the Reagan County Pool was discovered. On May 28, 1925, the Powell Field of northern Crockett County was discovered. The wells in this pool were small. In September, 1925, the discovery well of the Upton County Field was drilled. This, too, was a small well and produced part water. The first producer in Crane County was completed in April, 1926, as a small well, but led to the drilling of 5,000 to 8,000-bbl. wells in this field. West Texas was further stimulated in July, 1926, by the Winkler County wildcat producer and, in December, by the Yates Pool's 300-bbl. well flowing from the remarkably shallow depth of 1,000 feet. Howard County shallow pay was discovered in the same year in May, and Ector County's first production in October.

We will not go into a discussion of the older fields but will take the three newer fields which are (1) Church & Fields-Gulf McElroy Pool in Crane County, (2) the Yates Pool in Pecos County, and (3) the Hendricks Pool in Winkler County.

Church-Fields and Yates

The drilling in the Church & Fields area has been by cable tools; very few difficulties were encountered. Standard rigs were used throughout. In fact, this field has been exceptionally easy to drill. The formations run very uniform, approximately 1,000 feet of red sands and shales, 850 feet of anhydrite, salt and small amount of sand, and 875 feet of anhydrite and little sand. The top of the lime is found approximately from 2,750 to 2,850 feet. The time needed for drilling is from 30 to 35 days, the water string being set at approximately 2,300 feet. Pay is found from 80 to 115 feet in the lime. The cost of drilling these wells ranges from $35,000 to $40,000.

In Yates district, cable tools are used. The drilling machine has been favored because of the shallow depth at which production is found. This area has also been comparatively easy to drill. The formations vary as the canons are 400 to 500 feet deep in some instances. Anywhere up to 500 feet of limestone, depending on the location of the well, is found at the surface—then 420 feet of Trinity sands, and then 645 feet of anhydrite with thin red shale breaks at top of the section before the lime is found. Pays are found from slightly above 200 feet to around 250 feet in the lime.

Generally about 400 feet of 10-inch casing is set and 8-inch is set on the lime, generally from 1,200 to 1,400 feet. Drilling is generally completed in from 20 to 30 days. The cost of drilling these wells ranges from $10,000 to $15,000.

Hendricks Pool

The discovery well and most of the earlier wells drilled in the Winkler County Field were drilled with cable tools. This method worked out very well on the edges of the structure, where the gas pressure was not sufficient to interfere with tools. Higher up on the structure, where it is sometimes necessary to go 600 feet into the lime, the pressure and volume of gas encountered made it a difficult and long drawn-out process to drill in with cable tools. The gas is found in several porous strata of the lime, each one encountered adding to the volume and pressure, until in a number of cases the gas became so strong as to blow the tools up in the hole, wedging them in the casing, or blowing them out through the derrick. Several derricks have been wrecked in this manner and it is remarkable that no fires have been caused from this source. In other instances tools have fallen back on christmas trees, breaking the connections and letting wells run wild until damaged christmas trees could be replaced.

At the present time the rotary method has practically replaced cable tools in drilling to the lime. It has been found that rotaries effect a considerable saving in the amount and size of casing used and also in the time consumed in setting casing on top of the lime; also there is not the danger of running out of hole.

The formation runs from 300 to 700 feet of surface sand; 500 to 1,000 feet of red bed and gyp; 100 to 500 feet of anhydrite; 300 to 700 feet of salt with anhydrite; 100 to 300 feet of anhydrite. The top of the lime is found anywhere from 2,170 to 2,750 feet and the pay is found from 300 to 700 feet in the lime.

The standard 120-foot rotary derrick, either tubular or angle iron is used. On account of the high cost and also on account of the wind and fire hazard, no wood derricks are used in this field. If drilling in is to be done with rotary a cellar about 10 by 10 feet must be dug. This is to take care of master valve and blowout preventer. Most wells set 12¼-inch casing on the Barstow sandstone. This sandstone is encountered from 200 to 900 feet, depending on location on structure. From 200 to 500 sacks of cement are used on this surface casing. On a few wells in the north end of the field, to take care of cavities and caving gravel beds, 20-inch casing has been set, with 12½-inch set through it at a greater depth. After surface casing has been set, rock bits are used almost entirely. The number of cones used to top of lime varies from 10 to 12 in the south end of the field to 20 or 30 in the north end. This makes the cost of cones and reamers a considerable item in the cost of a well. Majority of wells are cased with 8⅝-inch casing on top of the lime, though some of the companies are now using 9⅝-inch and a few wells have been cased with 6⅝-inch. This casing is also cemented with from 200 to 500 sacks of cement.

High-pressure flanged casingheads, tying all strings of casing together, have come into general use, on account of gas blowing out between the casing.

In High Gas Areas

In the high gas areas rotaries have been very successfully used in drilling in. A master valve is placed on top of the casing and then a blowout preventer. If the well blows out while the drill pipe is in the hole the rams on the blowout preventer may be closed and mud or water forced into the hole and back into formations, killing the gas pressure. The master valve can be used for the same purpose if drill pipe is out of hole. A greater footage per set of cones can be secured when clear water is used than when hole is loaded with mud or baroid. On this account water is used as long as possible and mud or baroid used only when the gas pressure gets so strong that water will not prevent the well from blowing out. Rams on blowout preventer are often closed and water pumped back into formation for a considerable time.

In this manner it is often possible to kill the gas for the time necessary to make a trip to change bits and thus delay the loading of the hole. When the really big gas is encountered it is necessary to load the hole with mud and baroid, weighing not less than 12 pounds per gallon. As more hole is made more mud and baroid must be added to keep the fluid at this weight. No mud is made while drilling in the lime, and very little is made before casing is set and the mud so made contains so much sand that it is not suitable to use in drilling in. All mud must be shipped in and mixed artificially in steam hoppers. This is quite expensive, as wells in the gas area use from 20 to 150 tons of mud which sells from $12 to $16 per ton. A large amount of baroid is also used. This costs, delivered at well, about $60 per ton. The number of cones used in drilling in depends entirely on how far into the lime it is necessary to go, how long clear water can be used and on the natural hardness of the lime. Some wells in the south end of the field use only 8 or 10 sets, while others in the north end take as many as 40 or 50 sets. Many operators are using large pumps, 14½-inch by 7½-inch by 18-inch, in order to furnish more volume and pressure on the cones in order to keep them clean. This enables them to make more hole per set of cones and greater speed in drilling.

Six and five-eighths-inch casing is sometimes set through the 8⅝-inch or 9⅝-inch casing to cut off the upper gas. In other wells no casing is used below

(Continued on Page 107)

[1]District superintendent, Humble Oil & Refining Co., West Texas division. [2]Production engineer, Humble Oil & Refining Co., West Texas division. (Presented before A. P.I. Division of Development and Production Engineers, April 25, 1928, Fort Worth, Tex.)

COMBATING PARAFFIN TROUBLES IN FIELDS OF TEXAS PANHANDLE

By L. L. Bechtel and William O. Blenkarn*
The Midwest Exploration Co.

The Texas Panhandle oil deposits an undue amount of paraffin especially in the wells, and due to this fact all operators have been compelled to learn methods of handling it. As the large volume of paraffin is somewhat new to the industry a number of appliances and methods have been devised. Many of these are only partial remedies, yet they do assist the producer. Therefore as many schemes as are known to the writers will be given, and briefly described.

Before going into the subject a short description of the characteristics of the Panhandle oil and the troublesome paraffin may be of interest. The oil in Hutchinson County has a gravity of about 37 degrees, with a congealing point between 50 and 55 degrees Fahrenheit. The bottom hole temperatures are about 95 degrees Fahrenheit. The paraffin deposits from the oil at temperatures as high as 80 degrees Fahrenheit, and after once deposited the melting point is between 140 and 145 degrees Fahrenheit. This paraffin is black with a slight brownish tinge, and of a soft granular appearance when first deposited, but becomes quite hard with age. These features are somewhat unusual, and very bothersome.

The trouble caused by the paraffin may be briefly outlined as follows: Hindering deposits in the wells and in the oil lines. Since the difficulty with the wells is probably of major importance, and at least is a subject in itself we will only discuss this phase

Paraffin deposits in the well may be classified as those in the pipe, and that which is left in or on the face of the oil producing formation. By deposits in the pipe we mean that which accumulates in the tubing of pumping or gas lift wells, and in the casing of flowing wells. As to the paraffin deposits in the formation some are inclined to be a little skeptical, yet from results obtained with a hot salt water wash we believe in many wells this is found to be true.

In overcoming and removing paraffin, the means so far used depend upon heat or mechanical operations. This is due to the nature of paraffin, for its chemical reaction is very slight and with only a very few elements.

In Pumping Wells

As we take up methods of handling paraffin let us first consider the pumping wells, then the gas-lift wells, and then the flowing wells.

On pumping wells our experience has been mostly in the Borger district. With these wells the most common method of handling paraffined tubing is the frequent pulling of rods, and occasionally pulling the tubing and steaming it. Generally if

(Continued on Page 67)

*Before A.P.I. Division of Development and Production Engineering, April 25, 1928, Fort Worth, Tex.

SCHEDULE OF WELLS WASHED WITH HOT SALT WATER

Well No.	Washing	Date	Bbls. hot water used	Cases of lye	Oil—Bbls. per day Before	After	Increase
C No. 3	1st	3-24-28	150	None	66	60	D-6
C No. 4	1st	9-28-27	225	None	27	150	123
C No. 4	2d	1-16-28	150	6	64	97	33
C No. 4	3d	4- 3-28	200	None	15	60	45
C No. 5	1st	4-14-28	150	None	18	68	50
D No. 2	1st	10-14-27	10	3	70	100	30
			Steam down tubing 3 hrs.				
H No. 2	1st	11-10-27	250	240 lbs. Sal Soda	30	35	5
H No. 3	1st	1-20-28	10	3	14	20	6
			Steam down tubing 3 hrs.				
J No. 1	1st	2- 7-28	300	6	7	15	8
T No. 2	1st	10- 9-27	125	None	170	160	D-10
Note—The well was plugged with paraffin two days before the washing so there was really not the decrease shown.							
T No. 2	2d	1-12-28	200	6	18	78	60
R No. 1	1st	1-14-28	20	4	25	25	0
W No. 2	1st	10-18-27	100	None	60	90	30
W No. 2	2d	1-21-28	90	6	26	44	18

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research, refinement and continued improvement in manufacturing methods were required to develop the Axelson Vanishing Thread Sucker Rod to its present degree of perfection. The A.P.I. Specification Rod, embodying the Vanishing Thread Feature (in modified form) is therefore finished to finest degrees of accuracy by Axelson.

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THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

Axelson Sucker Rods

EASTERN FIELDS

(Continued from Page 56)

the Berea grit. In the same township, Gordon & Co. are drilling a test on the George Bruno farm. In Richland Township, Belmont County, the Dollar Savings Bank is due in the sand at a test on the Frank Strayer farm.

Gallia County

The Ohio Fuel Supply Co.'s No. 3 on the A. Boush and No. 1 on the C. C. First farms are both gassers in the Berea grit. In the northwest quarter of Section 114, Salem Township, Washington County, Werr & Schramm have a very light pumper at a test on the C. C. Palmer farm. It got nothing but a little oil in the Mitchell sand.

In the southwest quarter of Section 16, Jackson Township, Guernsey County, the Preston Oil Co. completed a second test on the R. F. Dennis farm. It produced 50 bbls. the first 24 hours after drilled into the Niagara lime.

Licking County

In Section 15, Perry Township, Licking County, Farmer & Rugg completed and shot in the Berea grit a test on the Edward Wright 50 acres good for 9 bbls. a day. In the same section, the same parties completed a second test on the same farm, an 8-bbl. pumper in the same formation. In Section 16, Hanover Township, the Hope Construction & Refining Co. has a 15-bbl. pumper in the Berea grit at a second test on the J. N. Shaw farm. In Mary Ann Township, George H. Long has a very light pumper at No. 4 on the C. W. Dwiggins farm.

Starting New Work

In Hopewell Township, Muskingum County, the Midland Oil Co. has rig timbers at a location on the Ella M. Denny farm. In Hopewell Township, Licking County, the Flint Ridge Oil & Gas Co. has a rig up on the J. W. Armstrong farm. In Bowling Green Township, Robinson & Zahniser have a rig up on the J. A. Mack farm. In Hardy Township, Holmes County, the East Ohio Gas Co. has rigs up on the J. R. Hastings, Samuel Franks and A. E. Harfo.d farms. In Richland Township, the Kemrom Co. has a rig up on the Walker Crosby farm. In Salt Creek Township, the Empire Gas & Fuel Co. is drilling on the James S. Miller farm. In Section 1, Monroe Township, Coshocton County, the Logan Gas Co.'s No. 1 on the James Markley farm is a gasser.

In Section 20, Fallsbury Township, Licking County, Sterl C. Brown and others have completed in the Berea grit a test on the H. A. Noland 30 acres good for 16 bbls. a day.

Gassers in Ho'mes County

In Section 17, Richland Township, Holmes County, the East Ohio Gas Co.'s test on the A. E. Hosford farm is a gasser in the Clinton sand. In Section 24, same township, the Logan Gas Co. has a 5-bbl. pumper at a test on the John Mullet farm. The Kemrow Co. has a gasser in the Clinton sand at No. 3 on the M. Purdy farm.

In Section 14, Hanover Township, Licking County, the Hope Construction & Refining Co has completed a test on the W. L. Prouty farm, a 20-bbl. pumper in the Clinton sand. In Madison Township, the same company has a duster in the Berea grit at a test on the W. E. McTurf farm. In Franklin Township, the Detex Oil & Gas Co.'s second test on the G. E. Cotterman farm is a very light pumper in the same formation. In the same township, Moore & Adams have a Berea grit gasser at a second test on the Lina Ryan farm.

Gassers In Athens County

In Section 30, Canaan Township, Athens County, the Bowman Oil & Gas Co.'s test on the Frank Dowler farm is a gasser in the Berea grit. In Alexander Township, J. A. Ronhausen & Co. have a gasser at No. 1 on the J. M Wood farm. In Lodi Township, the Farmers Oil & Gas Co. is drilling a test on the R. E. Wilson farm and Cook and others are drilling a test on the Hugh Mulligan farm. In Section 28, Elk Township, Noble County, F. Markey and others have a gasser at a test on the G. B. Bonar farm.

In the SW of Section 24, Jefferson Township, Noble County, Joseph Sailing & Co. have a 12-bbl. pumper in the Germantown sand at No. 5 on the Caroline Brotton farm. In Lot 75, Addison Township, Meigs County, the Ohio Fuel Supply Co.'s test on the C. C. First farm is a fair gasser in the Berea grit.

In Section 18, Palmer Township, Washington County, the Pure Oil Co 's No. 18 on the C. Breckenridge farm is a duster. In the same township, M. B. Worthington and others have a 5-bbl. pumper in the Big Injun sand at No. 5 on the D. E. Coots farm. In Fairfield Township, Ross Brothers are drilling a test on the Finley Roland farm.

Charles Dailey and others have a light pumper in the Berea grit at a second test on the Robert Roland farm, in Newport Township, Washington County. In Fairfield Township, the Preston Oil Co.'s test on the Watterson-Smith farm is a duster.

In the NW of Section 16, Jackson Township, Guernsey County, the Preston Oil Co. has completed a second test on the R. E. Dennis farm. It produced 50 bbls. the first 24 hours after drilled into the Niagara lime pay at a total depth of 3 690 feet

In the NW of Section 10, Fallsbury Township, Licking County, W. L Brown and others have a 10-bbl. pumper in the Berea grit at their No. 4 on the G. W. Chapin farm. In Hanover Township, C. E. Settles completed in the same formation a 3-bbl. pumper at No. 5 on the C. E. and F. B. Settles farm.

West Virg'n'a

As usual, the West Virginia fields completed more gassers than oil producers. On Sugar Camp Run, Reedy district, Roane County, the Heck Oil Co. completed in the Berea grit No. 13 on the J. W Con'ey farm, estimated good for 10 bbls a day.

In Carroll district, Lincoln County, L. R. Sweetland's No. 31 on the Will'am Woodell farm is a gasser in the Berea grit. In Grand district, Cabell County, the United Fuel Gas Co. has a gasser in the Big Injun sand on the M. J. Davis farm.

In Scott district, Boone County, the United Fuel Gas Co.'s No. 17 on the Horse Creek Land & Coal Co.'s tract is a gasser in the Berea grit. In McClellan district, Doddridge County, Godfrey L. Cabot's second test on the Anthony Arry farm is a gasser in the Big Injun sand.

Mingo County

On the right fork of Turkey Creek, Harvey district, Mingo County, the Public Gas Corp. has drilled No. 22 on the Henry Closterman estate into the Maxon sand and is a gasser good for 1,500,000 feet. The total depth is 1,597 feet

In Battelle district, Monongalia County, McCracken & Co. have completed a second test on the Frank Taylor farm at a total depth of 2,600 feet and it is a gasser. In the same district the Manufacturers Light & Heat Co. has a gasser in the 40-foot sand at a second test on the H. Barrickman farm.

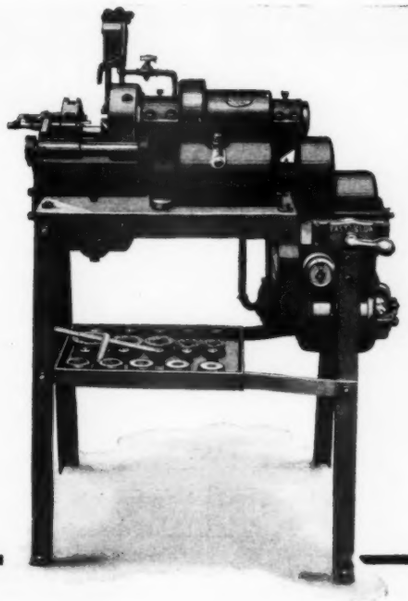
In Sheridan district, Calhoun County, Godfrey L. Cabot has a duster at a test on the S. J. Ferrell heirs' farm. In Geary district, Roane County, Richard Elkins & Co. have a gasser in the Big Injun sand at No. 5 on the James E. Keene farm. In the same district, Godfrey L. Cabot has a gasser in the salt sand at a test on the J. S. McQuain farm.

Wildcat Duster

In Washington district, Jackson County, the Producers Oil & Gas Co.'s test on the Kenna Skeen farm is dry in all sands and abandoned. This well was regarded an important test, some miles from production. In Peytonia district, Boone County, the Owens Bottle & Machine Co. has a light gasser at a second test on the Lennig heirs' farm.

In Washington district, Pleasants County, Riggs, Brown & Co. completed No. 4 on the F. C. Sm'th farm. It is a 3-bbl. pumper in the Cow Run sand. On Dry Ridge, Clay district, Wood County, Ira Connelly and others have rigged up and started to drill a test on the Ira Connelly farm. In Clay district, Ritchie County, the Delta Oil Co. is moving rig material to a location on the Tennant heirs' farm.

In Burning Springs district, Wirt



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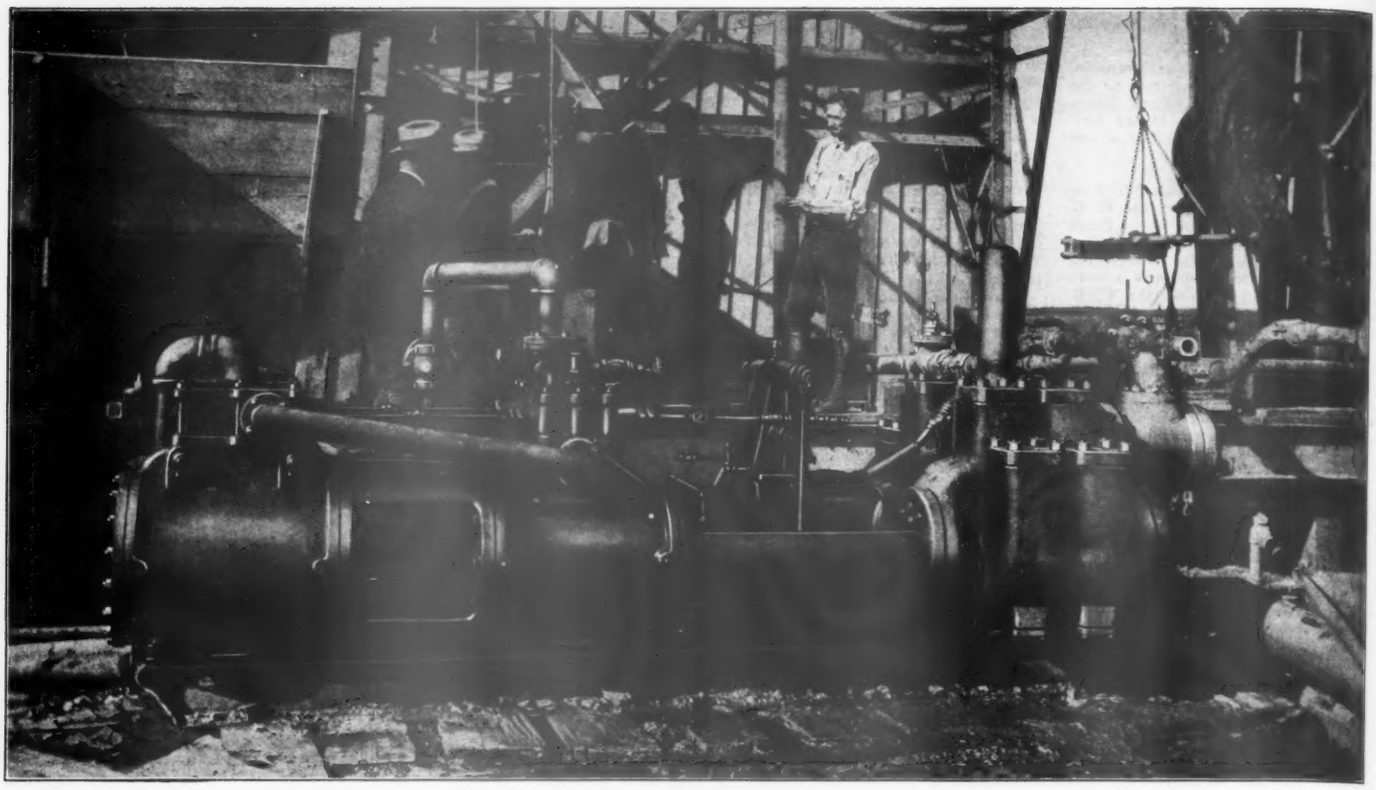

Worthington Compound Duplex Piston Pattern Slush Pump. Capacity rating 340 g.p.m., 1000 lb. per sq. in. discharge pressure. Carl B. King Drilling Company, Gypsy Oil Company Lease, Earlsboro Field, Oklahoma.

Worthington slush pump
sets economy record . . .

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A Worthington Open-type Portable Feedwater Heater with two Worthington Simplex Boiler-feed Pumps and a Worthington Long-Stroke Compound Slush Pump comprised the equipment which was responsible for the reduction of fuel and water costs. The economy in fuel and water is obtained by more economical use of steam in the compound slush pump and the saving effected by heating the boiler-feed water to 210 degrees F. before it enters the boiler. Complete information regarding the Worthington Slush Pump, Feedwater Heater and Boiler-feed Pumps will be sent on request.

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6141-1

County, Roberts Brothers have completed in the second Cow Run sand No. 158 on the Rathbone Oil tract. It is a very light pumper. In Spring Creek district, same county, the Dailey Oil Co.'s second test on the S. E. Badgett farm is a duster in the same formation.

Boone County Has Gassers

In Sherman district, Boone County, the Pure Oil Co.'s No. 30 on the Federal Coal Co.'s property is a gasser in the Berea grit good for 1,000,000 feet. In Crook district, the Yawkey O.l & Gas Co. has a light gasser at No. 5 on the Pond Fork Co.'s property. In Washington district, the Hope Natural Gas Co.'s test on the Burwell Sias farm is also a light gasser.

Ca'houn County

In Bull River, Sherman district, Calhoun County. W. H. Bickel has a duster in the Big Injun sand at a test on the Nathan Bennett farm On Daniels Run, Lee district, the Hope Natural Gas Co.'s test on the C. D. Stalnaker farm is a gasser in the same formation good for 700,000 feet. In the same district, the Calhoun Oil & Gas Co. has the rig completed for a second test on the A. J. Nitz farm. F. F. McIntosh & Co. have a rig up for a test on the J. M. Morgan farm.

On McKim Creek, McKim district, Pleasants County, Sud Powell and others have completed a test on the A. W. Powell farm and it is a very light pumper in the Squaw sand. In Murphy district, Ritchie County, the Maxon Oil Co.'s second test on the C. E. Parks farm is a light pumper in the Maxon sand In the same district, Huff Davis & Co. are drilling a test on the Strackler heirs' farm.

Doddridge County

In West Union district, Doddridge County, the Murphy Oil Co. has a duster in all sands at No. 3 on the William Coleman farm. In DeKalb district, Gilmer County, Blaine Engle & Co. have a gasser at a test on the M. Beall farm.

In New Milton district, Doddridge County, G. H. and J. E. Trainer have a duster at a test on the Lewis Maxwell farm. In Walker district, Wood County, L. P. Bickel & Son had the same luck at a test on the J. H Ewing farm. In Union district, the South Penn Oil Co. is drilling a second test on the S. E. Masters farm.

Drilling Test Wells

In Lee district, Calhoun County, McIntosh, Hardman and others are due in the sand at a test on the M. T. Bowers farm. In Jefferson district, Lincoln County, the Russell Gas Co. has started to drill on the James Cooper farm. In Grant district, Cabell County, the Big Two Mile Oil & Gas Co. is rigging up on the Ernest Braley farm.

In Murphy district, Ritchie County, Smith & Co. are starting to drill on the M. Morris farm. In McComas district, Cabell County, Wolfe & Riley have rig material at a location on the P. J. Riley farm. In Cameron district, Marshall County, Guy Patterson has made a location on the P. McClain farm. In Union district, Wood County, Roberts & Co. are rigging up at a second test on the John Freshwater farm. In McKim district, Pleasants County, L. C Huff and others are fishing for a bit on the J. P. Strickler farm.

Southwest Pennsylvania

Near Cecil Washington County, Paul Clay and others have completed in the Fifth sand a test on the Albert Viencak farm. It is good for about 5 bbls. a day.

In Dunkard Township, Greene County, J. J. Vanvorhes has a gasser at a test on the Winifred Johns farm. In West Bethlehem Township, Washington County, A. V. Lewis & Co. have a gasser in the Gordon sand at a test on the Jacob Muers farm. In East Finley Township, Robert McCarrel is drilling a test on his own farm. In Pine Township, Allegheny County, Morse & Co. are drilling a test on the Valley Heights Country Club's property.

COMBATING PARAFFIN IN TEXAS PANHANDLE

(Continued from Page 62)

rods are pulled often enough, the pulling of tubing for paraffin can be eliminated. The frequency with which rods must be pulled depends upon the nature of the wells and varies from every two or three days to two weeks. As the rods are pulled they are stripped clean of the paraffin with a piece of soft rope wrapped around the rod and held taut. When the plunger or traveling valve enters the denser deposits, which are usually in the top part of the hole, it scrapes its way through and brings out a goodly share of the paraffin ahead of it. But since the plunger or traveling valve is much smaller than the inside of the tubing considerable paraffin is left, which causes much trouble in running the rods back in the hole. Some times it is necessary to take off the plunger and run the rods with a soft rope swab. This swab is fashioned by tying a piece of soft rope on the bottom rod with a long series of half hitches. This enables the rods to be worked down through the paraffin, but when pulled out the soft rope will slide down to the bottom end of the rod and form a bunch at the upset which will mop the tubing. Always, before returning the traveling valve or plunger, it is advisable to pack all openings with a hard cup grease, otherwise it may be plugged with paraffin and the well will never pump. Here it might be well to mention that positive acting valves are useful. But they can only be used on light wells since they are not rugged enough for heavy duty.

In steaming paraffin out of tubing a neat arrangement is used A steam line is laid up close to the well-head with a short nipple sticking up A stand of tubing can be set down over this nipple, and when steam is turned on the paraffin will melt and blow out at the top.

This explains the mechanical operations known so far of removing paraffin from the tubing of pumping wells.

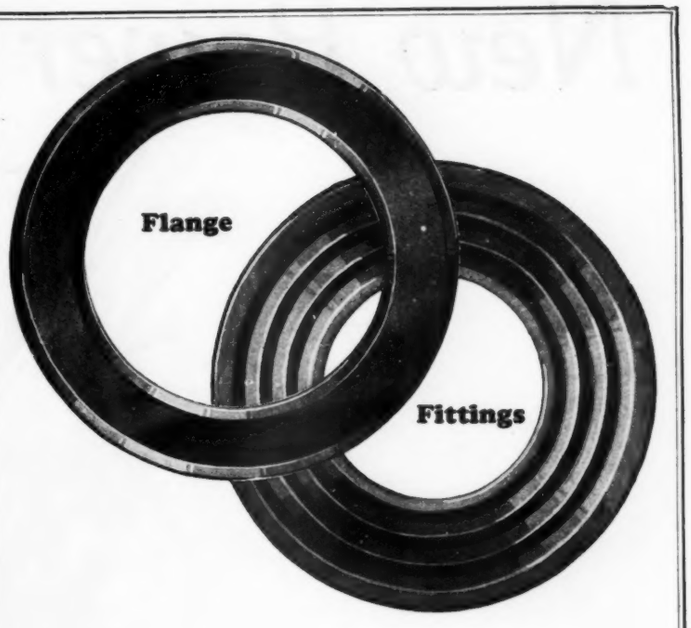
Heating methods of handling paraffin in the tubing of pumping wells have taken several different forms, most of which are still in the experimental stage. Sources of heat adaptable to this purpose have been used in the form of steam or hot water, and electricity. With these it is possible to devise means of removing the paraffin without shutting down the well. Methods of using steam include: Steam and hot water between the casing and tubing; steam placed down the tubing after the rods are removed; and steam valve ejectors, which are an integral part fo the tubing string. Electricity must be used with specially constructed heaters.

Running steam or hot water between the tubing and the casing was one of the first methods tried. This proved only partially successful, since it is of very little value save on light wells, and where little casinghead gas is present. Second'y a large space must be heated which requires a large volume of steam or hot water if the heating process is continuous. Then again there is the disadvantage of getting fresh water in the bottom hole formations, which is believed to be injurious to lime or dolomite causing them to sluff off.

Use of Steam

Using steam in the tubing has been more successful, but in order to get the best results the rods must be pulled. This makes it only a periodic operation which is often used to eliminate a tubing job after the pulling of rods has failed to remove sufficient of the paraffin accumulations. This again has the disadvantage of allowing fresh water to reach the dolomite formations. However, if the well is put back to pumping as soon as possible there is little danger of the water remaining long enough to do any damage. But sufficient steam must be used to melt all the paraffin or deposits will be left in the hole. This due to the fact that ordinary methods of steaming do not melt all the paraffin, but only loosens it from the tubing and forces it in large chunks to the bottom of the hole.

There are two steam paraffin remov-



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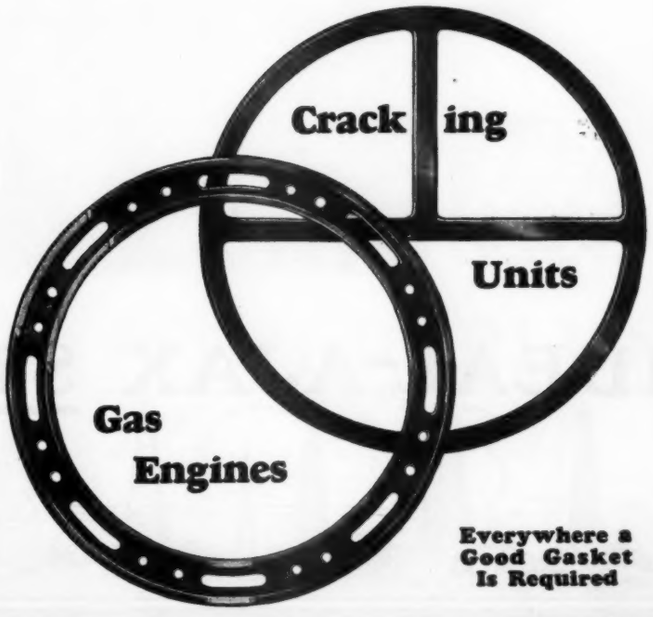

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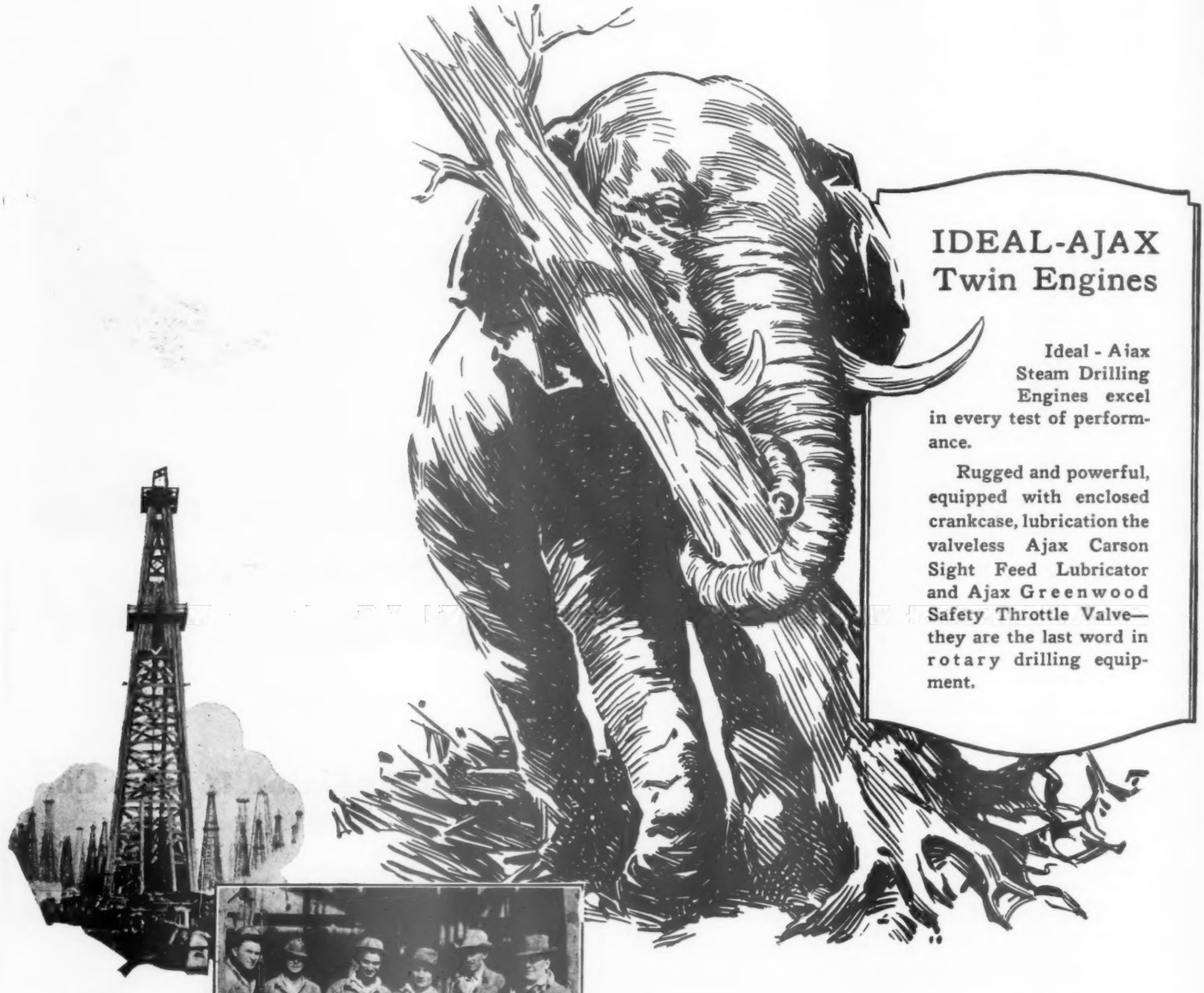

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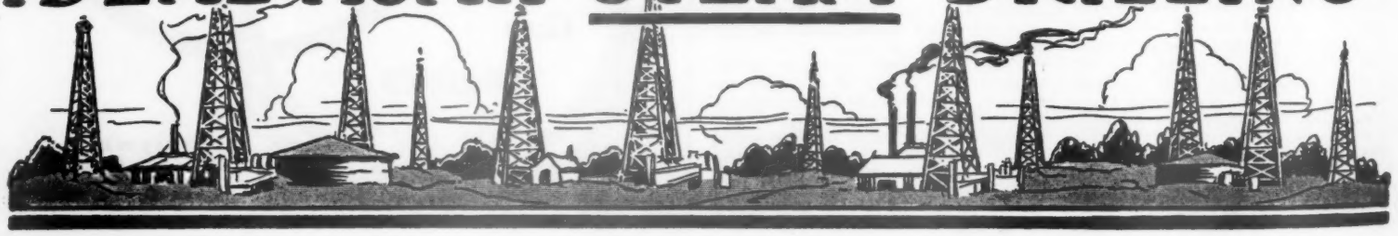
Two photographs of Magnolia Petroleum Co.'s Gladys No. 2, in the Spindle Top Field, Beaumont, Texas. This well was drilled to 5,200 feet and came in for better than 3,000 barrels a day.

The engine was a 12x12 Ideal-Ajax Twin.

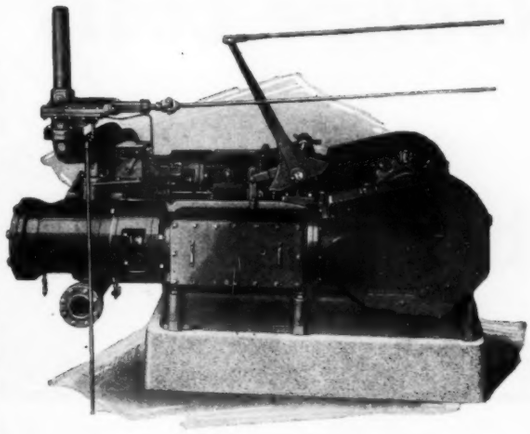
Magnolia Co.'s Drilling Crew on their Gladys No. 2. Left to right: Grady Young. C. E. Fry, D. W. Stud. W. A. Gray, B. D. Mosl•v and C. W. Howard, driller.

IDEAL-AJAX STEAM DRILLING



in Rotary Drilling

TODAY wells are being sunk by rotary drills to depths considered impossible a few years ago. New conditions make new demands on the drilling engine. These demands are for even torque, and reserve power.



An ordinary 4-cycle gas engine delivers one power stroke in two revolutions. A double acting steam engine has *two* power strokes *every* revolution—or four times as many as a gas engine. A twin cylinder steam engine will deliver the same number of impulses per revolution to the drill tools as would an *eight cylinder* gas engine. This means even torque, preventing twist-offs and minimizing damage to the tools.

Flexibility is an important factor. When the drill stem becomes fouled, the steam engine stops. The gas engine, with the momentum of flywheel and other weight, is more liable to twist off the pipe before it stops on rotary tools, or breaks the drilling line on cable tools.

It also means plenty of reserve power. For while 60 h.p. is absolute maximum for a gas engine so rated, the Ideal-Ajax has a reserve of 600 h.p. or more, depending on the boiler pressure and speed.

The Ideal-Ajax twin has been aptly named. It is truly the "ideal" engine for rotary drilling.

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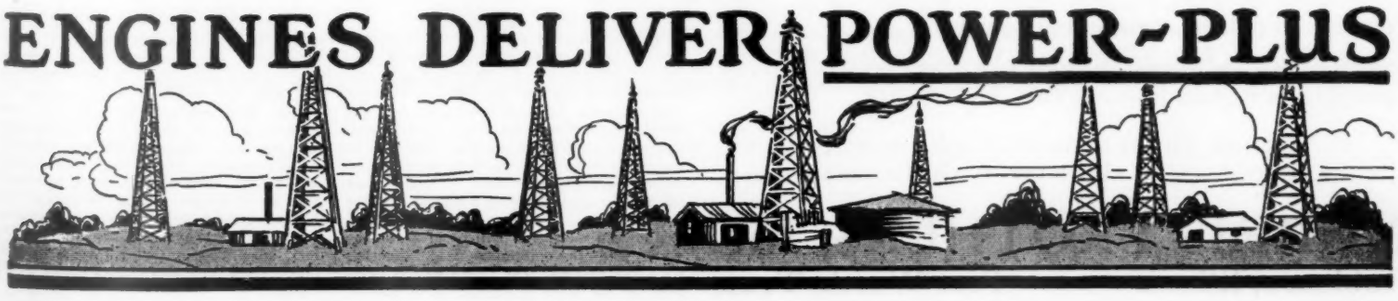

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ing ejectors or valves that have been devised and patented; the purpose of which is to remove paraffin from the tubing.

Both of these devices are based on the principle of placing steam in the casing, and using a valve or valves in the tubing which will open when steam pressure is built up in the casing. The idea is to place them below the paraffin region so the steam will blow these deposits out at the top of the tubing. The writers have not used these valves so must rely upon the other operators' experiences in reporting results.

One of these valves has been successfully used by an operator in the Pampa district. They report one well that has been kept free of paraffin for three months. Before installing these valves it was necessary to pull the rods once or twice a week for paraffin. Other companies have not reported in their favor.

However, on both steam ejectors it is probable that the results obtained depend upon the care and the knowledge with which they are handled.

Now to mention briefly the electric tubing heaters. The writers have worked a great deal with this method of eliminating or removing paraffin deposits in tubing. Splendid results have been obtained for periods of a month to six weeks in keeping tubing clean in badly paraffining wells. After electric problems had been satisfactorily solved, leaking seams presented mechanical difficulties, which necessitated redesigning and doing away with welding. The new designed heater is now about ready to run for further tests along this line.

Concluding the description of methods for handling paraffin in pumping wells, it might be well to state that the presence of water produced with the oil has been found to be a natural remedy. In this section the well that produces 30 per cent or more water is bothered very little with paraffin. And since much water is found in the Borger district, at the present time, the necessity for solving paraffin problems is not as great as it was. Although it is still worthy of our best efforts.

In Gas-Lift Wells

Taking up paraffin problems of gas-lift wells. In most of the gas-lift wells in this district the oil was produced through the tubing. Since a paraffin scraper was developed that could be used in the tubing while the well was flowing this was found to be the best method of producing the oil.

The paraffin tubing scraper is a cylindrical shaped piece of iron, sharpened on both top and bottom ends, and fastened with two stiff straps to a sucker rod pin. With a couple of sucker rods for sinkers it is placed on a sand line which can be run in the tubing through an oil saver. Scraping the wells every day was usually sufficient.

The use of steam heating on gas-lift wells is not recommended where sulphur gas is found, for the presence of moisture accelerates corrosion.

Flowing wells have been bothered to some extent with paraffin plugging the casing. It is only a short time ago that several flowing wells in the Pampa district gave trouble. This can be remedied by frequent swabbing and agitating with the drill tools. Should the well become plugged, the only relief is a paraffin hook.

This finishes the discussion of methods of handling paraffin in the pipe, which leads up to paraffin in the producing formation.

Hot Salt Water Wash

The probability of paraffin being deposited in or on the walls of the bottom hole formations has become apparent since the wells in the Borger district have declined to small producers and the rock pressure has lowered. (The closed-in pressure of the wells that will be discussed averages about 100 pounds per square inch.) This belief is based upon the results obtained with a holt salt water wash.

A brief description will be given of the wash and the methods used, together with the results. The fundamental principle of the wash is simple. It is merely to pump hot salt water to the bottom of the hole to melt the paraffin so it can be pumped out with the oil.

Hot salt water from the well is used, since there is a possibility of fresh water causing dolomite to cave or sluff off in the hole. This belief is based on a little test made with a core sample of dolomite secured when drilling.

In this test a piece of dolomite was broken in two pieces; one piece placed in common surface water; the other placed in salt water from the oil wells. After a period of two weeks the sample in fresh water had completely disintegrated; while the sample in the salt water was still hard.

A concentrated hot lye solution has been used to precede the hot salt water. The idea being that this would act as a washing solution, emulsifying the hot paraffin so the water would have a greater carrying capacity. Results of production increase have not proven this much aid. This is probably due to the oil acting as a carrier of the melted paraffin; thus allowing the water to act only as a means of transmitting the heat.

Operation of Washing

The operations of washing a well will be described briefly.

Have a tank of at least 150 bbls. of salt water steamed as hot as possible. The temperature of the water should be at least 190 degrees Fahrenheit. The water can be heated in a flow tank equipped with steam coils. From the tank the water can be pumped through the flow line to the well.

The sucker rods are pulled, and also the standing valve. Then the hot salt water is pumped down the tubing.

If a lye solution is used a small tank of about 10 bbls. capacity can be placed on the derrick floor high enough to allow the solution to drain from the tank into the well. The ordinary wagon tank is very suitable. The lye is mixed with salt water and heated with live steam as hot as possible.

After the hot solutions have been put in the well, the rods should be run and the well put to pumping. This need not be rushed since it has been found that the solution holds its heat for several hours after reaching the bottom of the hole. However, it is well to start pumping as soon as the well is ready.

The amount of water recovered after washing has been surprisingly small from the wells of the Borger area. What relation this has to the success of the washing process we do not know.

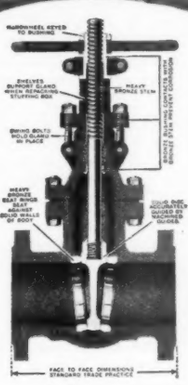
The results of production increase are shown in the schedule of wells washed. Here is given the amount of water and the quantity of lye used. The lye was used by the case, each case containing 48 standard cans. The production increase is given so that comparisons may be had of conditions before and after washing.

After a study of the schedule it is very evident that good results may be obtained, with no danger of hurting the well. And since it is an inexpensive operation it is worth trying before starting to clean out or abandon the well.

Summing up the problem of combating paraffin you will see that it is only partially solved. However, operating conditions have been improved and progress is being made. Yet much work along this line remains to be done if these difficulties are to be overcome in possible future fields.

BIG MOTOR TANKER

The biggest motor tanker constructed in a British yard, the "Victolite," was completed and proceeded immediately on her maiden journey to Canada. She is to the order of the Imperial Oil, Ltd., Toronto. The length is 510 feet, the beam 68 feet, and the depth 38 feet, the gross tonnage being about 12,000 and the deadweight capacity 16,000 tons on a draught of 28 feet. The normal speed in service will be 11 knots. In the "Victolite" two Krupp two-stroke single-acting engines are installed, having four cylinders, 680 mm. bore, with a piston stroke of 1,300 mm. Each develops 1,750 b.h.p. at 92 r.p.m.



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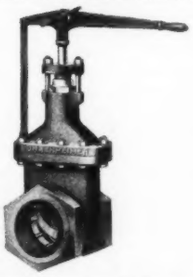

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NATURAL GAS CONVENTION
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MEN KNOWN IN OILDOM

Gilbert Wood

Gilbert Wood, recently sent to Fort Worth, Tex., to take charge of the Independent Oil & Gas Company's Texas operations, is not a stranger in his new surroundings. During the reign of Ranger, Burkburnett, and Desdemona in the affairs of the industry, Mr. Wood was in charge of the Southwestern Petroleum Company's land office. His transfer from Kansas to Texas resulted in the renewal of several old acquaintances.

During his 15 years of connection with the petroleum industry, Mr. Wood has served in every state of the Mid-Continent and spent one year in the Rocky Mountain area. and was stationed in Wyoming.

He was in charge of the land department for the Southwestern Petroleum Company for nine years. During 1918, 1919 and part of 1920 he was in Texas. Early in 1920 he was moved to Tulsa, and was with the Southwestern company until it was sold to The Texas Company in June, 1926.

The following month he was identified with the Independent Oil & Gas Company and opened their Wichita, Kans., office where he was in charge of the land and production department. January 1, 1928, Mr. Wood was transferred to Texas.

Mr. Wood is a native of Indiana and was born in 1883.

PERSONAL PARAGRAPHS

E. V. D. Selden, Oil City, Pa., was a recent visitor to Pittsburgh, Pa.

* * *

F. H. Scott, Fort Worth, Tex., independent operator, is spending several days in Florida.

* * *

W. J. Peddie, president of the Maintenance Engineering Corporation, Houston, Tex., is in Tulsa on business.

* * *

J. D. Fields, traffic manager of the Crystal Oil Refining Corporation, is critically ill in a Shreveport, La., hospital.

* * *

Dana H. Kelsey, vice president and general manager of the Prairie Oil & Gas Company, was a Tulsa visitor last week.

* * *

George A. Livermore, of the B. F. Goodrich Rubber Company, of Akron, Ohio, is making a tour of the Oklahoma oil fields.

* * *

Burdette Blue, vice president and general manager of the Indian Territory Illuminating Oil Company, is back in Bartlesville, Okla., after a visit to New York.

J. Reginald Smith, of the Hudson's Bay-Marland Oil Company, has returned to Edmonton, Alberta, after a trip to the East.

* * *

J. M. Atwell and M. E. Lombardi, of the Standard Oil Company of California, were recent visitors in the West Texas fields.

* * *

W. T. Young, president of the Young Engine Corporation, Canton, Ohio, is making an extended visit to the Mid-Continent fields.

* * *

Maj. T. R. H. Garrett has left London for Rumania upon an important mission. He will spend most of his time in Moldavia.

* * *

Cyclone Smith, of the Borden Company sales department, is in Tulsa after completing a tour of the Oklahoma and Kansas fields.

* * *

W. F. Gates, president of the Prairie Pipe Line Company, visited Tulsa for a few days last week, and returned to Independence, Kans.

* * *

E. O. Bennett, chief petroleum engineer of the Marland Oil Company in Texas, was a visitor in Tulsa and Ponca City, Okla., last week.

* * *

Francis B. Flahive, formerly assistant treasurer of the Columbia Gas & Electric Corporation, has been elected treasurer of the Columbia system.

* * *

Joe W. Elsbury, chief scout of the Marland Oil Company in Texas, has returned to his headquarters in Fort Worth from a visit to West Texas.

* * *

Sheldon Hardin, president of the Southern Crude Oil Purchasing Company, of Shreveport, La., spent the week in the New York offices of the company.

* * *

J. C. Ballagh, secretary-treasurer of the Patterson-Ballagh Corporation, Los Angeles, Calif., is visiting the Mid-Continent in the interests of his company.

* * *

Christopher Dalley, of the board of the British Controlled Oilfields, Ltd., has been elected on the Council of the Institution of Petroleum Technologists.

* * *

R. A. Liddle, chief geologist of the Pure Oil Company's Texas division, has returned to his Fort Worth, Tex., headquarters following a visit to West Texas.

* * *

J. Stickel, general sales manager for the Crown Central Petroleum Corporation, Houston, Tex., is making a tour, visiting distributors and agencies for the company.

* * *

W. A. Williams, president of Crown Central Petroleum Corporation, and J. G. B. Bowles, technologist, of Houston, Tex., are making a business trip to the East.

* * *

Rex M. S. Beach, of the Rio Grande Oil Company, left Los Angeles, Calif., for Mexico City a few days ago but will return to headquarters in two or three weeks.

* * *

William G. Hanrahan, of the Gaso Pump & Burner Company sales department, spent a few days in Tulsa last week, and returned to his headquarters at Dallas, Tex.

* * *

Sir Edward Manville, J. P., chairman of the Phoenix Oil & Transport Company, Ltd., has left London upon his annual visit to the properties of the company in Rumania.

* * *

Tom Meece, in charge of the Dubuque, Iowa, division for the Mid-Continent Petroleum Corporation, is recovering from an operation for appendicitis, performed April 16.

* * *

W. L. Kostelka, assistant to G. B. Davies, manager of the wholesale sales department of the Louisiana Oil Refining Corporation, spent last week covering the Mississippi Field.

* * *

L. W. Youns, Pittsburgh, Pa., president of the South Penn Oil Company and vice president of the Penn Mex Fuel Company, and Frank J. Huffman, secretary and treasurer of the last-named company, have gone to Mexico and are looking over the company's properties.

M. J. Grogan, vice president of the Louisiana Oil Refining Corporation at Shreveport, La., went to New York early in the week for a conference with other officials of the company.

* * *

R. C. Grinnell, one of the owners of the Robert N. Atmore Company, of Tulsa, underwent a throat operation in an El Dorado, Ark., hospital Tuesday. He is said to be recovering nicely.

* * *

R. R. Brandenthaler and E. L. Rawlins, engineers of the United States Bureau of Mines experimental station at Bartlesville, Okla., are attending the annual meter conference at Norman, Okla.

* * *

R. D. Parker, chief supervisor of the oil and gas division of the Texas Railroad Commission, was a recent business visitor in Fort Worth, Tex., in connection with Hendricks Pool proration plan.

* * *

George Belchic, vice president of the Southwest Gas Utilities Corporation, of Shreveport, La., spent last week in New York in connection with the organization of the newest Southwestern gas merger.

* * *

T. M. (Ted) Cady, assistant land man of the White Eagle Oil & Refining Company, making his offices in Kansas City, Mo., is in Amarillo, Tex., checking over operations in the Panhandle Field.

* * *

Edward Reynolds, Jr., was recently elected a vice president of the Columbia Gas & Electric Corporation. He will continue to act as secretary of the corporation and have jurisdiction over fiscal affairs.

* * *

J. Edgar Pew, president of the Twin State Oil Company, is back in Dallas, Tex., after making an extended trip over properties of the Beacon Sun Oil Company in Venezuela, of which concern he also is president.

* * *

R. C. Holmes, president, D. J. Moran and C. D. Ames, vice presidents, and Thomas M. Taylor of the legal department, of The Texas Company of New York City, have been visiting the Houston, Tex., offices of the company.

* * *

F. W. Burford, vice president of the Crystal Oil Refining Corporation, of Shreveport, La., was confined to his home for a few days last week by an attack of "flu", suffered on his return from a week's business trip away from the city.

* * *

George Surabekoff, chemical engineer and vice president in charge of administration of refineries of the Azneft State Oil Trust with headquarters at Baku, and Jean N. Oparin, general representative in the United States of the oil industry of the Soviet Republics, has left Los Angeles for San Francisco, Calif., after spending some time in the Los Angeles Basin studying the local situation.

* * *

G. Legh-Jones, president of the Shell Company of California, is expected to return to the home office at San Francisco following a trip to Houston, Tex., where he has been consulting with J. B. A. Kessler, vice president of the Royal Dutch-Shell group, F. Godber, president of the Roxana Petroleum Corporation, and J. C. Van Eck, president of the Shell Union Oil Company.

* * *

C. H. Hadley, manager of the crude oil department, and J. C. Case and T. O. Lane, all of the New York offices of the Vacuum Oil Company, and W. B. Sutton of Houston, Tex., general manager of the Southwest division, have been making a tour of some of the company's holdings in Texas, visiting the Eastland and Midland offices. The New York visitors were met at Fort Worth, Tex., by Mr. Sutton, and also spent some time in Houston.

* * *

Edgar J. Marsten was re-elected president of the Texas Pacific Coal & Oil Company at the annual meeting held in Thurber, Tex. The other officers elected were: O. E. Mitchell, vice president; LaRue Smith, Great Falls, Mont., vice president; Dr. E. R. Lederer, re-elected vice president in charge of refining; R. N. Siebel, former treasurer, named secretary-treasurer; Herman Know, former secretary, is retiring; Roby Penn was re-elected chairman of the executive committee; Ellison Harding, Fort Worth National Bank, was added to the board of directors.

It's a LABOR SAVER *and a* TIME SAVER

ASK any Operator and he will tell you "I can pull sucker rods and valves (as well as run a sucker rod socket) directly through the "OILWELL" Imperial Stuffing Box—Model "C" without removing it from the tubing.

And I don't have to use a sucker rod guide or bell nipple."

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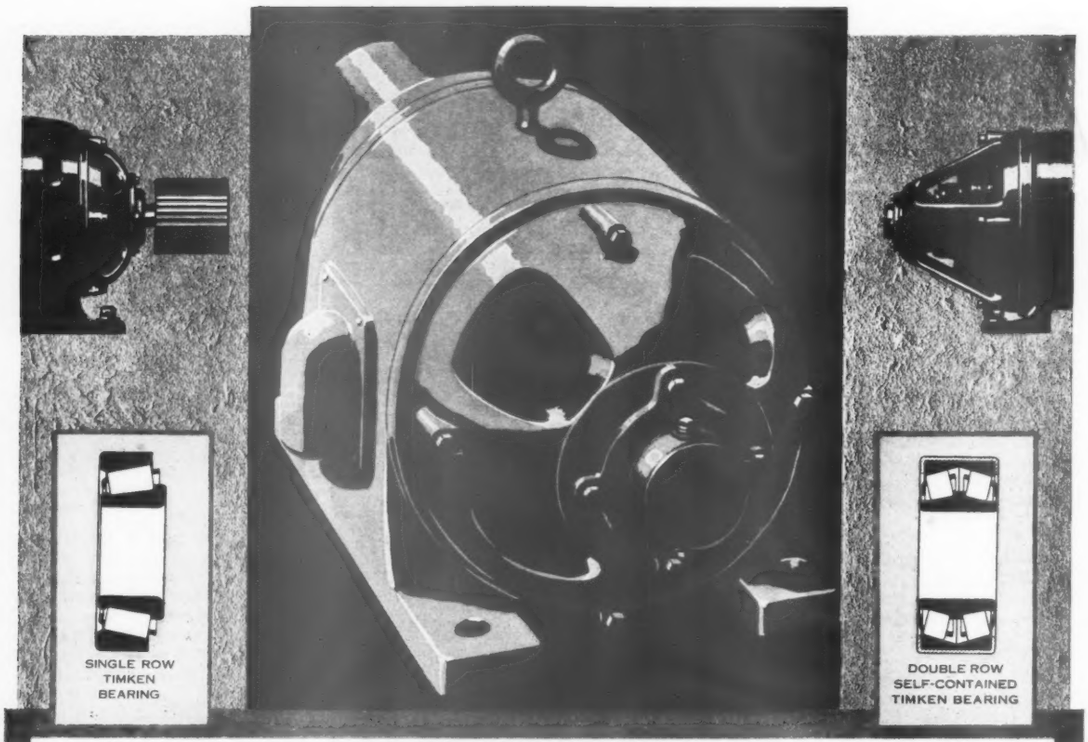
WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT



Timken Bearings Improve Design and Performance

The performance and economy curves stay up when a Timken-equipped motor is shifted from the floor to wall or ceiling; from any type of belt drive to any type of gear drive, or to a direct-connected job. So long as the work is within the motor's rating, the thrust and angular loads do not matter to Timken-equipped motors. For they are not only anti-friction, but *thrust-radial!*

If it prevents wear and saves lubricant to eliminate all possible friction radially, it is that much more profitable to do it under heaviest thrust loads as well! That is how Timken Bearings add the extreme endurance which makes Timken-equipped motors last for years on the very jobs where bearing life has hitherto been measured only in months.

Timken Bearings and a little lubricant a few times a year are the most effective protection against a fluctuating gap, dropped rotor, burn-out and motor stoppage. Timken Bearings never overheat or seize, do not drip, and keep the windings clean. Timken Bearings facilitate starting and save current.

The way to the most improved motor design and performance is to specify Timken Bearings in every order for motors.

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

Timken Bearings effect an exclusive combination of results, through the exclusive combination of Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS*, and Timken electric steel.

TIMKEN
Tapered
ROLLER BEARINGS

EQUIPMENT AND SUPPLIES

WROUGHT-IRON MAKERS ORGANIZE ASSOCIATION

Representatives of leading manufacturers of wrought iron in various parts of the country met at the Duquesne Club in Pittsburgh, Pa., and formed the Wrought Iron Research Association, the principal object of which is to gather and disseminate information about this time-honored metal.

The executive committee consists of seven members as follows: George O. Boomer, vice president Ewald Iron Co., Louisville, Ky.; Frank W. Hamilton, president Ulster Iron Works, Dover, N. J.; J. M. Gillespie, vice president Lockhart Iron & Steel Co., Pittsburgh; L. M. Johnston, vice president A. M. Byers Co., Pittsburgh; Snowden Samuel, secretary American Swedo Iron Co, Philadelphia, Pa.; L. E. Thomas, president Reading Iron Co., Reading, Pa., and William C. Wolfe, manager of sales, Highland Iron & Steel Co., Chicago. L. M. Johnston was elected president and Snowden Samuel secretary-treasurer of the association, whose headquarters will be in Pittsburgh.

SALT PLANT WILL BE BUILT NEAR HOUSTON

A $500,000 salt evaporating plant with a daily capacity of 250 tons will be erected by the United Salt Corp. at Pierce Junction, near Houston, Tex., according to announcement by B. V. Christie of B. V. Christie & Co., Houston brokers. The company has 15.637 acres in the Pierce Junction oil field salt dome. Investigation by engineers, Mr. Christie said, has shown that the field will produce more than 65,000,000 tons of salt before it is exhausted. The equipment of the plant, he said, will include machinery for packing the salt in cartons for household use and for making sulphurized salt blocks for the cattle industry. J. Milton Howe is president of the company.

TRADE LITERATURE RECEIVED

Four hundred industrial plant engineers and owners have reported their experiences with concrete floor finishes of different types and their reports are contained in a book, "Plain Talk About Concrete Floors," published and distributed free by the Master Builders Co., Cleveland, Ohio.

Oxy-Acetylene Tips, published by the Linde Air Products Co., New York, contains for April, among other articles, one on "Easy Method for Testing Welds for Ductility."

How Hercules wire rope was used in various important building projects is described in the latest issue of the Hercules Record, published in St. Louis, Mo., by the A. Leschen & Sons Rope Co.

"Methods of Motor Overhaul Improved" is among the articles in the current number of Oakite News Service, published bi-monthly by Oakite Products, Inc., New York.

The scleroscope, one of the instruments used in the laboratory of the Delta-Star Electric Co., Chicago, is described in the house organ of that company, the Delta Star. The scleroscope measures hardness by a comparison of the effect of the drop and rebound of a diamond-tipped hammer as indicated on a graduated scale, 100 being taken as the average rebound value of quenched pure high-carbon steel.

NEW TOOL CATALOG ISSUED

Besides describing and illustrating its long list of tools and accessories, the Chicago Pneumatic Tool Co., New York, in its catalog No. 561, just issued, gives valuable advice on the care of tools. The catalog, printed in two colors on sized paper, contains 70 pages. In its foreword the company says: "The history of the Chicago Pneumatic Tool Co. is a chronicle of unwavering adherence to quality ideals. Since its inception 30 years ago has never compromised with quality. Each tool is as nearly perfect as the brain and hands of man can make it."

NEW BOOK SHOWS 101 WAYS TO SAVE MONEY

Ingersoll-Rand Co., 11 Broadway, New York, has completed the sixth edition of its 140-page, two-color book entitled, "100 and 1 Ways to Save Money with Portable Compressors." In this book the company has embodied comparative cost data on its portable air compressors and air-operated tools (rock drills, paving breakers, clay diggers, backfill tampers, grinders, hoists, riveting hammers, chippers, metal drills, etc). The information has been put together in handy-reference, cross-index form. In most cases figures are presented on a man-hour basis so that they can be applied readily to local conditions.

The company states that 125,000 of the books are already in the hands of readers and that each copy in circulation represents a specific request for it. Free copies may be obtained by writing to Ingersoll-Rand Co.

On many classes of work, one man using a portable compressor and some one of the above-mentioned tools can do as much as 10 men formerly did by hand, and do it better.

Ingersoll-Rand manufactures a full line of the tools which are commonly used with portables. The book, "100 and 1 Ways," contains accurate tables showing the number of tools that any given portable will operate and 300 interesting photographs. It shows the savings that can be made by using portable air compressors and air-operated tools on construction and maintenance work.

NUTTALL BUSINESS SHIFTED

The R. D. Nuttall Co.'s commercial activities are now being handled by the parent company, the Westinghouse Electric & Manufacturing Co. Inquiries, etc., should be addressed to the nearest Westinghouse district office. J. E. Mullen, formerly assistant sales manager of the R. D. Nuttall Co., will head up the new commercial setup with offices at the Nuttall plant, McCandless Avenue at Butler Street, Pittsburgh, Pa.

FOAM GENERATOR APPROVED

The Fomon Continuous Foam Generator, manufactured by the American Fomon Co., Philadelphia, has been approved by the Underwriters Laboratories. The Fomon foam stabilizer and the Fomon 2½ and 40-gallon extinguishers already had been approved.

BUSINESS NOTES

Adding to the service of its New York office, the Leader Iron Works, Decatur, Ill., has opened a warehouse in Kearney, N. J., carrying stocks of air compressors, steel drain racks, pumps, fittings, tanks and other oil equipment. T. E. O'Brien, president, is spending much of his time in the New York office.

The Wagner Electric Corp. has moved its New York branch sales office from 50 Church Street to 30 Church Street. The service station remains at 321 West Fifty-fourth Street.

The Heppenstall Forge & Knife Co., Pittsburgh, Pa., has made the Ryer Co., in charge of Milton C. Ryer, its Pacific Coast representative. Mr. Ryer's office is at 291 I. W. Hellman Building, Los Angeles, Calif.

The Lincoln Electric Co., Cleveland, Ohio, has appointed Jacob F. Savela welding service manager for the Detroit district, under J. M. Robinson district sales manager. Mr. Savela is a graduate of the University of Michigan.

The Fulton Engineering Co., 620 American Bank Building, Los Angeles, has been appointed agent for the C. H. Wheeler Manufacturing Co., Philadelphia, Pa., for the southern district of California.

J. A. Buchta, treasurer of the Bartlesville Supply Co. of Missouri, St. Louis, Mo., was in Tulsa recently.

NEW SPARK CONTROL FOR CLIMAX ENGINES

The Climax Engineering Co. of Clinton, Iowa, now offers for use on its heavy-duty industrial engines a new automatic spark control which operates from the suction in the intake manifold. As the variation in pressure in the intake manifold is proportional to the load imposed upon the engine, the ignition is always timed correctly, no matter how the power varies in intermittent loads. By timing the spark automatically, this device does what operators could not do by hand.

There is little loss of power and a saving of 10 per cent on fuel is attained on intermittent loads, such as are encountered in earth-moving machinery, locomotives and similar classes of equipment. The device reduces spark knocks and wear on bearings. It can be installed quickly in the field on any model Climax engine.

AIRPLANE BIG TIME-SAVER IN VISITING PLANTS

The accompanying picture shows officers and executives of the Anderson-Prichard Oil Corp., Oklahoma City, Okla. and the six-passenger cabin airplane used in connection with the company's business. The plane supplies the need for quick transportation to various operations. A trip to Cyril, Okla., (about 55 miles distant as the crow flies), and return is made easily in a half day, allowing several hours at the company's naphtha refinery plant.

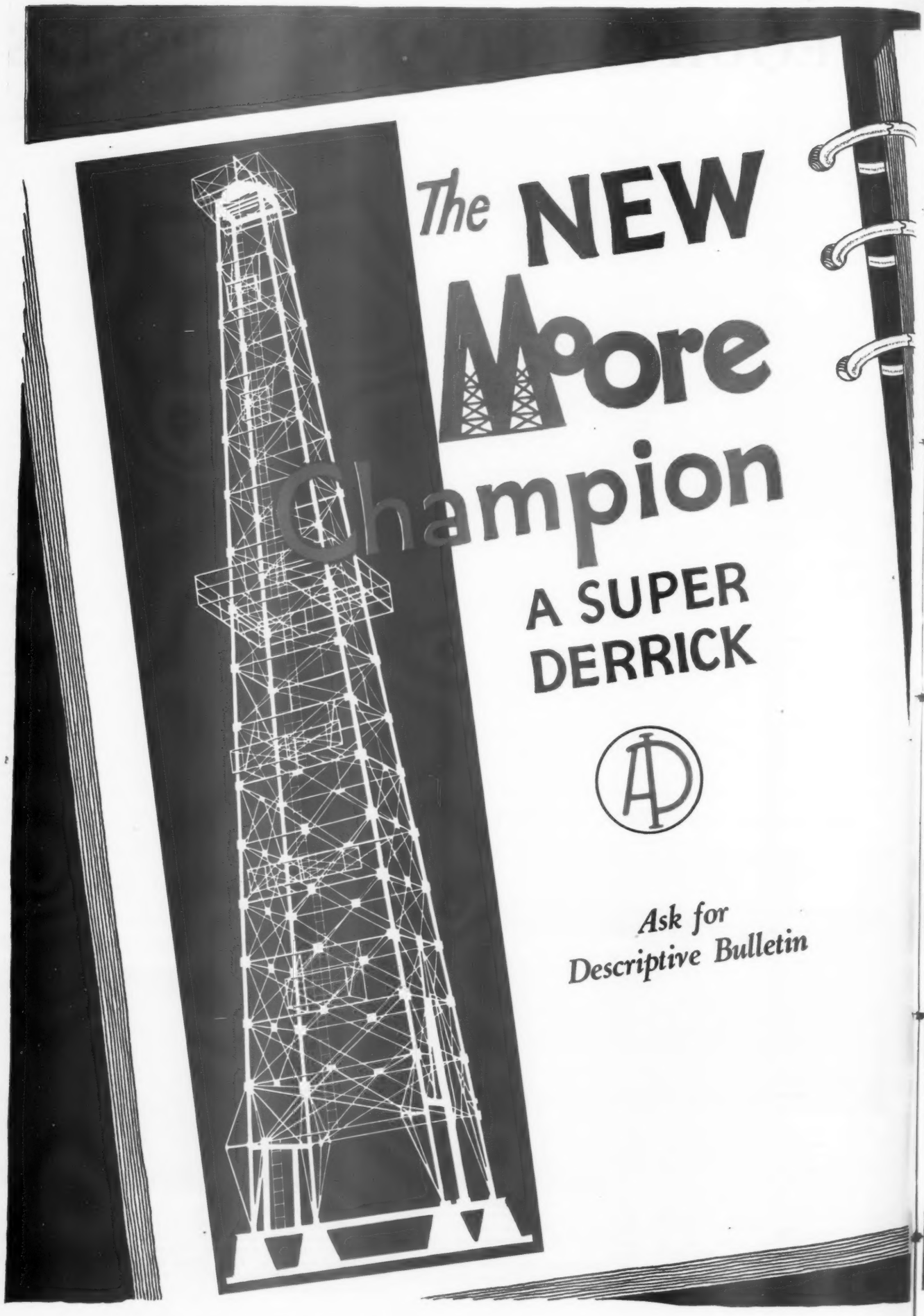
To Colorado, Tex., where the company operates the Col-Tex Refining Co. (owned jointly by Anderson-Prichard Oil Corp. and Standard Oil of California) requires only one day, giving four hours at the plant. The railroad time for this trip is 18 hours each way. The plane makes it in about three hours each way.

An air trip to the Atlantic Coast was made recently in connection with the sales department in making calls upon Anderson-Prichard jobbers and distributers.

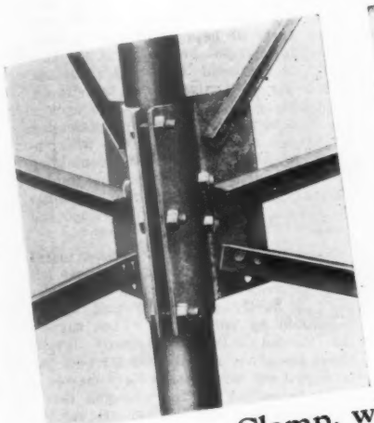
A California trip made last March required only about 15 hours flying time each way.

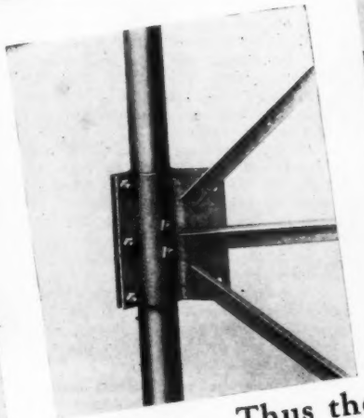
PARKERSBURG 5,000-BBL. TANK IN ARGENTINE

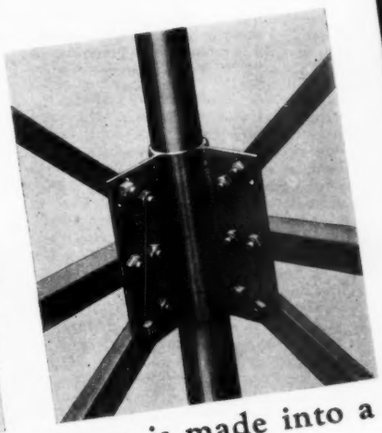
Bolted steel tank of 5,000 bbls. capacity erected recently for the Standard Oil Co. of Bolivia in the Agua Blanca district Provincia de Salta, Argentine Republic. The site overlooks the Bermejo River, which is the boundary line between the Argentine and the Bolivian Republics. The tank in the background is a 500-bbl. Parkersburg bolted steel tank. F. L. Silvers of Healdton, Okla., in the Argentine Republic for the Standard Oil Co. of Bolivia, is seen in the picture. He is the third person on the right in the front row.


The NEW
Moore
Champion
A SUPER
DERRICK
Ask for
Descriptive Bulletin

ONE PIECE ROLLED STEEL PLATE CLAMP







The Moore Clamp, which acts as an efficient joint for leg sections, and provides a convenient attachment for girts and braces, has a solid body of rolled steel plate.

The section of the clamp between the flanges is *automatically* welded by the electric carbon arc process. Since the operation is automatic, the strength of the weld is kept at a uniformly high standard. One-inch reinforcing welds are made by hand on the inside at each end, giving a double weld on the ends.

Thus the clamp is made into a single rigid unit.

Three ¾″ bolts through the clamping flanges, insure a vice-like grip on the leg sections, while two ¾″ bolts through the body of the clamp and through the leg sections, prevent leg sections from being pulled out, even by the heaviest horizontal loading. Girts and braces are attached to the flanges of the clamp. For standard construction, double bolting is used in 122′ derricks, and a single bolt in all others.

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STEEL DERRICKS
ALL STEEL RIG EQUIPMENT

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

PUMPING STATIONS FOR SMALL PIPE

There is an interesting article in your April 19, 1928, number on the Field Problems page, as to distance between pumping stations. This covers the matter very nicely for pumping large quantities of oil. However, we would like to ask this question: How far apart should pumping stations be located on small pipe, such as 3-inch size, if it is desired to pump 1,500 bbls. per day a distance of approximately 100 miles, the elevation being practically level and the oil being a product something like Oklahoma crude of around 38 gravity?—B. V. S.

To pump 1,500 bbls. of oil such as you mention through a 3-inch pipe every 24 hours would require about 20 pounds per mile so that the job could be done with two stations, one at the beginning of the line and the other half way out, provided it were decided to operate at 1,000 pounds pumping pressure. If, because of this running the pressure rather high, both for the line and the pumps, it should be decided to use three stations, 33⅓ miles apart, the maximum pressure would be only 667 pounds per square inch.

In summer, if the temperature of the oil approached 80 degrees Fahrenheit, the first plan, that of installing two stations, would handle the oil with about 850 pounds pressure (using a viscosity of 50 Saybolt seconds). In winter, if the oil cooled off to 40 degrees Fahrenheit, the viscosity might easily be as high as 110, requiring a pressure of 1,100 pounds to the square inch to deliver this amount of oil if the two-station plan were used.

Ordinary 3-inch line pipe has a test pressure of 1,800 pounds per square inch. Extra strong 3-inch, with a test pressure of 2,000 pounds per square inch, could be used for a few miles out from the station if a larger factor of safety were desired.

PREVENTION OF BY-PASSING IN REPRESSURING

Which is considered the best way to produce wells on the pump when repressuring a sand, to maintain pressure against the sand by pumping against pressure maintained at the well head or by maintaining a higher fluid level in the well? I have in mind the best method to use in overcoming by-passing of gas or air.—H. T. V.

Satisfactory results in preventing by-passing of gas or air through the sand into certain wells have been obtained by constantly maintaining a pressure at the well head and to date this method apparently has proven more satisfactory than maintaining a higher fluid level in the wells by raising the pump barrel. However, instances are known where satisfactory results were obtained by maintaining higher fluid levels in the wells. It would seem that less gas would be produced from the formation if the fluid level could be satisfactorily maintained at a level somewhat above the top of the sand.

E. V. Foran's paper on "Effect of Repressuring Producing Sands During Flush Stage of Output," presented before the Petroleum Division, A.I.M.E., in New York, last February; included an interesting discussion of back pressure control. In it he states that several methods were tested out as a means of controlling the gas-oil ratio.

Mr. Foran contends that maintaining a fluid column above the top of the sand was not satisfactory for two reasons. First, variations in the weight of the column of fluid in small wells, due to pumping off, often unbalanced the pressure equilibrium at the bottom of the well and the gas would break through. Second, in cases where bottom water was being produced with the oil, the water would tend to concentrate in the lower part of the well and constantly cover the sand.

The most satisfactory method, Mr. Foran said, was to maintain the pump barrel at the normal position above the top of the sand and adjust the speed and length of stroke in such a manner that the producing formation would never be uncovered, but there would always be sufficient fluid in the well to maintain the fluid level at a point which would give the desired pressure.

Possibly one objection to this method would be the necessity for very close supervision of all wells and in cases where a large number of wells were included under the same project and where the wells were small producers, the expense of this supervision might be an important factor.

OIL AND GAS SEPARATORS

Would greatly appreciate answers to the following questions: What is the working principle of the separator at oil and gas wells? Would a separator be of any use at a well making only dry gas?—G. E. M.

The separator most commonly used in the oil and gas fields today resembles in outward appearance the hot-water boiler familiar in American homes, except that it is much larger. Inside the upper part of this cylindrical steel chamber is a series of baffles which are essential features of the device.

The first baffle is simply a deflector, or hood, over the inlet at which the gas (or the oil-and-gas mixture) enters the chamber from the pipe. Just above this is a perforated disc or diaphragm whose diameter is only slightly less than the inside diameter of the chamber. Above this are three bell-shaped baffles, the first two perforated and the third unperforated. The separators used at wells producing oil and gas are the same in construction as those at wells producing gas only.

As oil, impregnated with gas as it leaves the well, pours into the separator it first strikes the deflector and is thrown downward. Here it remains in a quiescent state long enough to permit the gas in the form of bubbles to rise and strike first the perforated diaphragm and then the bell-shaped baffles. The gas bubbles as they shoot upward carry with them minute particles of oil. The baffles have the effect of scrubbing this oil from the gas, with the result that when it leaves the chamber through a pipe at the top it is free of moisture. As a concomitant of this process the oil, divested of the gas which had accompanied it to the surface, leaves the separator chamber through an outlet at the bottom. Thus it will be seen all gas is removed from the oil inside the separator, maintaining the highest possible gravity of the oil, which is run into the stock tanks in a steady flow while the gas is run into the gas line. The gas then can be taken to the gasoline plant for extraction of natural gasoline or placed in the pipe line for use as fuel.

The answer to your second question involves a definition of the term "dry gas," which perhaps does not mean exactly the same thing to any two men except when it is applied to gas that is absolutely dry or devoid of gasoline content. A well producing absolutely dry gas would have no use for a separator of course for the reason that there would be nothing to separate. The fact is, however, that wells producing what the owners designated as dry gas have utilized a separator to advantage, removing unsuspected quantities of gasoline. The quality of the gas was improved and a profit was derived from the gasoline.

As a result of the difference between the specific gravity of dry gas and that of condensed gasoline, along with the separatory action of the baffles, the heavy ends of gas introduced into the separator are precipitated and are discharged at the bottom in the form of gasoline, while that part which retains the form of vapor passes out at the top.

After the gas from any given well has been subjected to analysis a representative of a company manufacturing separators would be able to say with certainty whether a separator could be installed at the well with profit.

TORSION BALANCE AND PENDULUM

I hope you will be able to understand the following inquiries, as I have scant knowledge of the subject in which I am interested. A pendulum arrangement has been invented recently, the actions of which indicate oil land over which it is erected. It has been called by associates of mine who know as little about it as I do the "torsion balancer." I hope that you may be able to direct me as to where I might be able to obtain information on this subject.—R. A. D.

You and your friends evidently have confused two geophysical instruments, one the torsion balance and the other the pendulum. Both of these operate on the same principle.

The torsion balance is an extremely complicated and delicate instrument, which, like the pendulum, employs the principle of gravitational attraction. It is of help in ascertaining underground structural features because of the fact that hard rock masses exert a stronger pull (attraction of gravitation) than do soft formations. For a detailed description of both the torsion balance and the pendulum you are referred to Technical Paper 420, "Geophysical Methods of Prospecting," by A. E. Eve and D. A. Keys. It may be obtained by sending 10 cents to the Superintendent of Documents, United States Government Printing Office, Washington, D. C. You will find of interest also an article in The Oil and Gas Journal of December 1, 1927, "Science Employed in Search of Oil."

To get a fairly clear idea of the way the torsion balance is used suppose you take a sheet of paper and draw a horizontal line across the middle of it. This line will represent the earth's surface. Now under the center of this line draw a cone with a rounded apex, this apex a half inch or so from the line representing the earth's surface. This cone will represent a salt dome or uplift containing dense masses of limestone and granite. Outside the cone, at each side, are softer formations, such as shale, clay and gumbo.

Now imagine a torsion balance placed at the extreme right or the extreme left of your drawing, where soft formations are. A barely perceptible pull will be registered by the device. Then suppose the torsion balance is placed directly above the cone. A distinctly stronger pull is registered here by the hard masses of rock, indicating to the geologist that a sale dome or uplift lies beneath the surface.

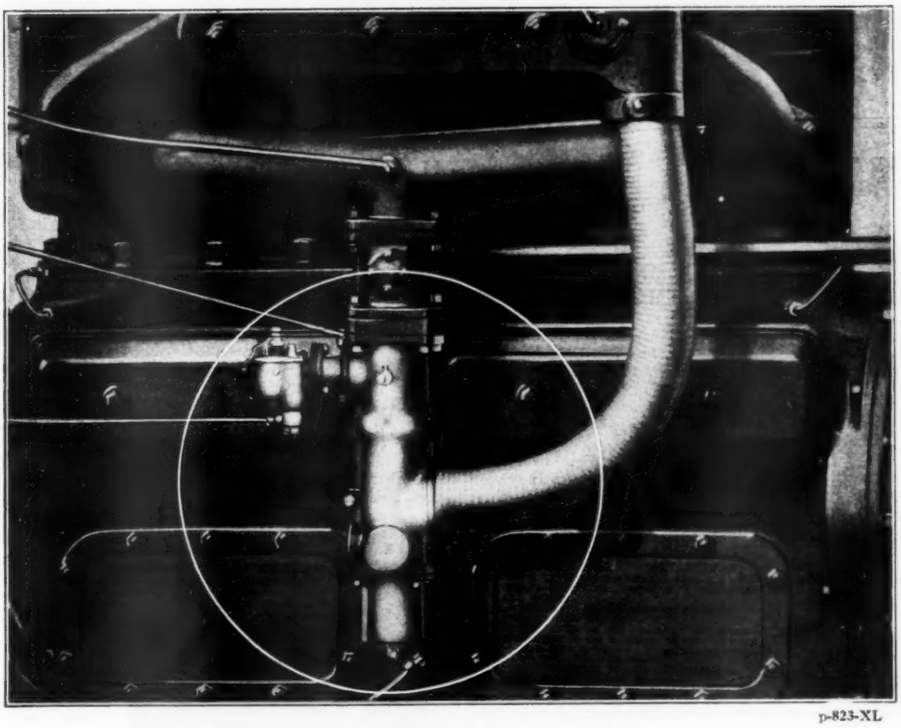
The pendulum is just what its name indicates and is similar in principle to the one made familiar by the 8-day clock on the mantel. Obviously, the oscillations of the pendulum will be more rapid when it is placed directly over hard rock masses, because of the stronger pull of gravity, than when it is over soft formations. Careful measurement of the differences in time consumed by the pendulum's oscillations when placed at different spots reveals to the geologist the probable presence or absence of a dome beneath the surface.

Attention should be directed at this point to a fact which is as important perhaps as any other touched upon here, and that is that none of these geophysical instruments—torsion balance, pendulum, seismograph, magnetometer—should be regarded as an "oil-finder." They simply aid the geologist in determining something about subsurface structural features which may—and may not—indicate the likelihood of oil-bearing strata.

FINDING HEATING VALUE OF GAS

I would like to know if there is any way in which the heating value of a gas can be determined from the analysis of the gas, or is it necessary to make an actual test of the gas?—R. K. A.

The heating value of a gas may be determined from the analysis. It may be calculated in the following manner: The heating value of methane is 1,065 B.t.u. per 1,000 cubic feet, and the heating value of ethane is 1,861 B.t.u. per 1,000 cubic feet. To obtain the net B.t.u. of the gas, multiply the value given above by the percentage of the constituent in the gas and add. As an example, assume a gas to contain 90 per cent methane and 8 per cent ethane. Multiply 1,065, the heating value of methane, by .90, and the heating value of the methane in 100 cubic feet of the gas is 959 B.t.u. Multiply 1,861, the heating value of ethane, by .08 and the heating value of ethane in the gas is 149 B.t.u. To obtain the total heating value of the gas add 959 and 149. Thus 1,145 B.t.u. would be the heating value of the gas.



p-823-XL

"GASPOWER" mounted on Manifold of 125 H. P. Waukesha Engine

"Gaspower" a new Waukesha product

"GASPOWER" is the trade name of the Waukesha designed, laboratory tested, improved gas mixer for the operation of heavy-duty industrial engines. It handles with equal facility, "still," natural or artificial gas. It is highly responsive, instantly and automatically proportioning the fuel and air at every change of speed or load. It does not require adjusting — once set, always set. The maximum horsepower of the engine is delivered at every speed.

With the "Ricardo Head" Waukesha engine it affords the flexibility of steam. No volume tank is required, if a sensitive regulator is placed close to "GASPOWER." It works best on gas pressures not over 1 to 1½ ounces. It is an exclusive feature obtainable only with Waukesha "Ricardo Head" engines.

Y 836-XL

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Natural Gas Developments

PRESIDENT C. G. LASKEY DETAILS GAS MERGER

SHREVEPORT, La., Apr. 28.—Accomplishment of a gas merger rivaling that of the Moody-Seagraves companies in Southwest Texas and North Louisiana and that of the Doherty and Benedum-Trees interests in North Louisiana and Arkansas was contained in a brief press dispatch from New York a few days ago announcing organization of the Southwest Gas Utilities Corp. A few of the details of the consolidation, missing from the New York announcement, were furnished by Charles G. Laskey, of Shreveport, president of the company.

The new consolidation brings together in the Southern Gas Uutilities Corp. as the holding company 32 natural gas distributing systems together with producing, gathering and transmission properties in North Louisiana, Texas and Oklahoma, chief of which are Southwest Gas Co. of Texas and Tri-State Gas Co. of Texas, headquarters at Houston; Southwest Gas Co. of Oklahoma, and Ada Gas Co. of Ada, Okla.; Allen Gas Co., Allen Pipe Line Co., of Allen, Okla.; McQuaite Gas Co., and Northwest Louisiana Gas Co. and Peoples Gas & Fuel Co. of Louisiana, Shreveport, La. These are in turn the owners of smaller concerns serving a number of communities in the three states. Among these are Ada, Seminole, Earlsboro, Allen and others in Oklahoma; Shreveport (in part) Ruston, Homer, Haynesville, Arcadia, Farmersville, Choudrant, Athens, Arcadia and Gibsland, La.; Dublin, Stephenville, Comanche, DeLeon, Rising Star, Cross Plains, Pioneer, Cuero, Yoakum and Gonzales, Tex. In addition to domestic consumers a large number of industrial consumers in the three states are also served by the merged companies whose combined sales last year approximated 14,000,000 000 feet. Communities served by the companies have a population of 300,000 while that of the counties and parishes in which the pipe lines are located have a population in excess of 1,000,000.

Properties involved, in addition to gathering, transmission and distributing pipe lines include leaseholds and gas purchase contracts covering more than 50,000 acres of which more than 20 000 acres are directly owned on which there is a present production estimated in excess of 750.000,000 feet per day, open flow, with reserves much in excess of that figure, made available by over 1,000 miles of pipe lines.

Management of the properties will be in the hands of George Belchic and Charles G. Laskey, of Shreveport, vice president and president respectively, who have been actively engaged in the gas producing transporting and marketing business in Shreveport territory for 15 years and in the Ohio and Indiana fields before that. Shreveport will be operating headquarters. Other officers are Yandell Boatner, Shreveport, M. R. Keyser, Houston, vice presidents, and F. S. Koons, New York, secretary-treasurer.

Contrary to statements in a prior account of organization of the corporation, construction and operation of the Central Louisiana Gas Co. 20-16-inch line from the Richland Parish, Louisiana, gas fields south through the middle of the State and to a number of Louisiana Gulf Coast towns will not be a detail of the merger but is a Belcher & Laskey project entirely separate from the Southwest Gas Utilities Corp.

Surveys for this line have progressed from Richland to Lafayette, La., and surveys and maps for distributing systems in 15 of the 52 or more communities to be served have been completed. All such surveys are expected to be completed and construction begun in about 30 days or by June 1, with completion of main pipe lines anticipated by early fall.

PROGRESS OF MERGERS IN THE SOUTHWEST

The recent rapid growth of the natural gas industry in the Southwest will be largely benefited by the mergers in course of consummation in that field, according to authorities in close touch with the situation. The advantages of consolidation are said by those in close touch with the developments to include diversification of consumers, as the smaller concerns had often to rely upon one or two industries or small rural communities, more efficient management, joint operations of artificial and natural gas plants, permitting the development of the former when the latter approaches exhaustion, to assure the permanence of the enterprise. Financing is expected to be facilitated by the merger movement and larger bond issues at low rates to result.

One of the large public utility consolidations of the year in the Southwest involving gas manufacturing and gas distributing systems in the cities of El Paso, Galveston, Waco, Paris and Brenham, Tex., and Council Bluffs, Iowa, has been completed under the direction of H. G. Scott, formerly vice president of the Columbia Gas & Electric Co. The new company, named Union Utilities, Inc., will operate through subsidiaries, among which will be the Texas Cities Gas Co., Galveston Gas Service Co. and Council Bluffs Gas Co. Negotiations for properties in other sections of the country are now in progress.

The present properties include six artificial gas manufacturing plants with a total daily capacity in excess of 16,500,000 feet, 14 gas holders, with an aggregate storage capacity of 3 707.000 feet of gas and distribution systems consisting of 480 miles of city mains and 43,599 consumers' meters serving an estimated population in excess of 300,000.

PHILADELPHIA CO. INCOME

Net revenue from operations of Philadelphia Co. and subsidiaries for the year ended December 31, 1927, before retirement (depreciation) reserves, amounted to $96 522.687, an increase of $1 156,882, or 4 5 per cent as compared with the previous year. Net income for the year, after all charges and appropriations, but before dividends, amounted to $11.526.006, an increase of $1.416 613, or 14 per cent. These increases were accomplished despite a slight decrease in consolidated gross earnings, due largely to the curtailed activity in many lines of industry in the Pittsburgh district. The condensed consolidated income account, with intercompany items eliminated, compares as follows:

	—12 months ended— December 31 1927	1926
Operating revenues	$61,250.923	$61,444.862
Operating expenses, maintenance and taxes	34,728.236	36,079.057
Net revenue from operations	26.522,687	25.365.805
Other income (net)	376,431	628.354
Gross income of utility companies	26,899.118	25.994.159
Gross income of non-utility companies	711.162	550.018
Total gross income	27.610.280	26,544.177
Income charges	7.905.730	8.410.106
Net income before appropriations	19,704,550	18,134.071
Appropriations for retirement (depreciation) reserves, amortization and contingencies	8.178,544	8.024.678
Balance	11.526,006	10.109.393
Appropriated for dividends	8,404.496	7.012.635
Balance	3.121.510	3.096.758

H. C. MORRIS PRESIDENT DALLAS GAS COMPANY

DALLAS, Tex., Apr. 28.—Henry C. Morris, vice president and general manager of the Dallas Gas Co., was elevated to the presidency of the company at a meeting of the board of directors here. He succeeds W. V. M. Towelson of New York. The change in officers, Mr. Morris said, does not mean any change in the policy of the company.

R. G. Soper, who has been connected with the company several years, succeeds Mr. Morris in the capacity of vice president.

Both Mr. Morris and Mr. Soper have been active in preparations for the natural gas convention coming here May 7 to 10. Mr. Morris is chairman of arrangements.

H. C. Morris, President

Beginning work in the shop of the Detroit City Gas Co. repairing meters, Mr. Morris has climbed step by step to the top during the past 30 years. From Detroit he went to the Saginaw (Mich.) Gas Co. as superintendent of construction, and from there, after three years, to Bay City, Mich., where he was made assistant general manager of the Power & Light Co.

In 1909 he came to Dallas as superintendent of construction and operation for the Dallas Gas Co., and in 1912 he was made vice president and general manager. He is now also vice president of the Fort Worth Gas Co., in charge of operations.

Mr. Morris was interested in the big Monroe, Louisiana, gas field developments for a time and had a large part in assembling of the 130 000 acres of leases in Bastrop (La.) Field and in organizing of the Natural Gas Producing Co., United States Carbon Co., Morehouse Gas Co. and the Excelsior Pipe Line Co. of Louisiana.

MAY SELL MIXED GAS

CHATHAM, Ontario, Apr. 28.—A bill giving the natural gas referee for Ontario the same jurisdiction over the sale of mixed artificial and natural gas as he now has over natural gas, was introduced at the session of the Ontario legislature; but was temporarily withdrawn. The possibility of companies now marketing natural gas alone being compelled to utilize manufactured gas to maintain their supply is foreshadowed.

W. A. CARVER DIES

WESTON, W. Va., Apr. 28.—Everyone in the oil and gas business in Lewis County will be sorry to learn of the death of W. A. Carver, superintendent of the Philadelphia Gas Co. at Clarksburg, who died at Atlanta, Ga. Mr. Carver was one of the veteran employes of the Philadelphia company and was well known and liked by a large number of oil and gas men in this county, also wherever oil and gas is produced.

CALIFORNIA COMPANY PLANS IMPROVEMENTS

LOS ANGELES, Calif., Apr. 28.—Southern Counties Gas Co., serving gas to domestic, commercial and industrial consumers throughout southern California, will spend about $2,562,997 for improvements in 1928, according to the budget prepared by the company. This estimated outlay includes proposed construction of gas holders, mains, office buildings and other improvements, and represents an increase of $431.667 over the net capital expenditures in 1927.

In Santa Barbara the budget provides for the erection of a 500 000 cubic foot high-pressure gas holder. The site and the holder will cost about $78,000. In Santa Monica the company will construct two large pipe extensions, one of 2 miles of 16-inch main at a cost of $54.000, and one of 2 miles of 20-inch main costing $68 000. In addition, a $30.000 garage and warehouse will be built in the Bay district.

At San Pedro Southern Counties Gas will build a warehouse, garage and meter shop to cost approximately $35.000. Pomona will get $35,000 to complete a gas holder already under construction.

New office buildings are planned for Laguna Beach, Montebello, El Monte and Arcadia, each costing $10,000. A garage to cost $10,000 will be built at Monrovia.

To supply the requirements for gas service in the territory it serves, the Southern Counties Gas Co. has appropriated increasing amounts annually for capital expenditures. In 1911 the expenditures for improvements and betterments was about $900,000, considerably less than the amount now expended each year. At the close of last year capital assets were shown on the books of the company at $20.301,611.

Southern Counties Gas operates in more than 70 cities and communities in southern California. Its system includes 2.195 miles of transmission and distributing mains and lines. Consumers number about 121,000.

W. C. GRANT NAMED ACTING SECRETARY

Williams C. Grant, director of the Texas Public Service Information Bureau, has been appointed as acting secretary of the southwest division, natural gas department, American Gas Association, to succeed George McQuaid, who died March 5.

Mr. Grant also succeeded Mr. McQuaid as director of the Texas Information Bureau last June, when Mr. McQuaid became director of public information for the Central & Southwest Utilities Co.

LAYS DISTRIBUTION SYSTEM

HOUSTON, Tex., Apr. 28.—Dixie Gas & Fuel Co. of Houston has started construction of a natural gas distribution system at Troup, Smith County, and is laying a line a distance of a mile to the main line of the Dixie Gulf Gas Co. from North Louisiana to Houston.

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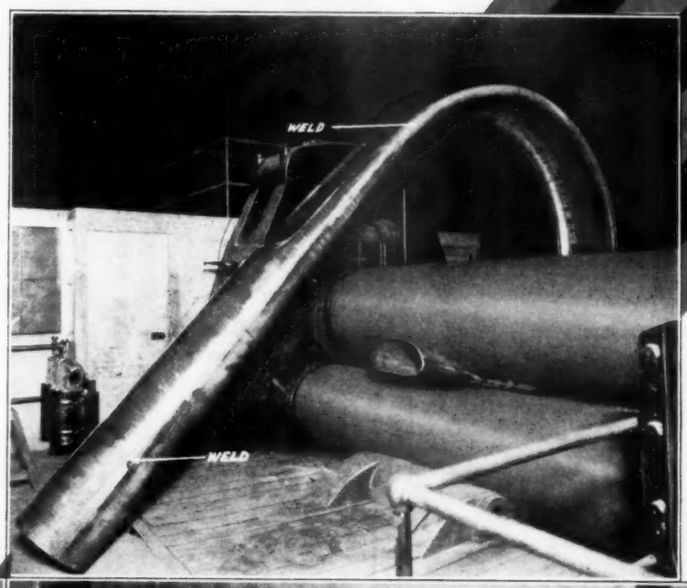

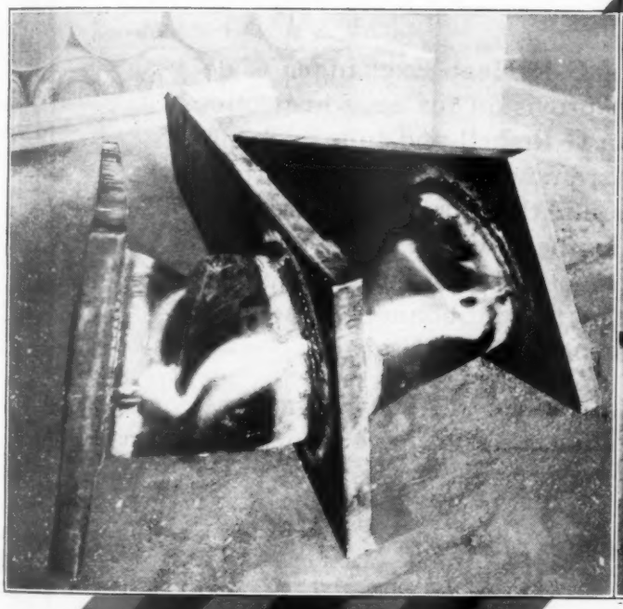

Each of these tests and some others equally interesting will be presented with accompanying data in other advertisements.

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Oil & Gas Field Products Division
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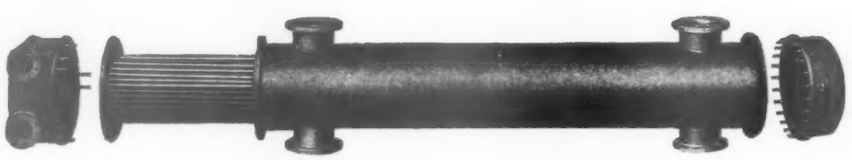

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EACH type of G-R Heat Exchanger is designed with provision for easy inspection and cleaning. In G-R shell-and-tube exchangers, the heads are removable without disturbing pipe connections, and the tube bundles are readily withdrawn. In the new G-R Tubeflo Section for use with dirty or corrosive oils, removable semi-steel cover plates and bonnets give access to the straight smooth cored passages.

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LEVEL CONTROLLERS

Griscom-Russell
Heat Transfer Apparatus

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 42)

BLAINE COUNTY

Lewen and others' No. 1 Unknown, NW cor. SW NW Sec. 37-16-11w ..... Spudded and shut down.

MUSKOGEE COUNTY

Pinefield and others' No. 1 Jobe, NE cor. NW SE Sec. 13-15-18 ..... Shut down 1,665 ft.
J. R. Parks' No. 1 Berge, CWL NE NW Sec. 13-15-19 ..... Dry and abandoned 1,415 ft.
Elk Drilling Co.'s No. 1 Jones, SW cor. SW Sec. 34-13-17 ..... Spudded and shut down.
L. T. Haney's No. 1 Mitchell, SE cor. NW SE Sec. 33-13-18 ..... Drilling 1,735 ft.
Relestone and others' No. 1 Hixon, CNL SE NE Sec. 1-13-19 ..... Dry and abandoned 2,212 ft.
J. L. Slusher's No. 1 Johnson, NE cor. SW NW Sec. 20-15-20 ..... Machine.
C. D. Bradley's No. 1 Butler, NW cor. SE Sec. 14-15-19 .. Drilling 700 ft.

HUGHES COUNTY

W. J. Monahaim's No. 1 Pusby, C NW NE Sec. 14-4-9 .... Location.
Noble Oil & Gas Co.'s No. 1 Wickett, SE cor. SE Sec. 20-5-9 ..... Sand 1,935-50 dry and drilling deeper.
Galt Brown Oil Co.'s No. 1 Burrow, NW cor. NE Sec. 14-4-9 ..... Drilling 1,772 ft.

OKLAHOMA COUNTY

Cromwell Oil & Gas Co.'s No. 1 Proc.or, C SE Sec. 21-14-3w ..... Shut down 4,075 ft.
Slick & Bailey's No. 1 Koester, C SE NE Sec. 18-13-3w .. Running casing 3,970 ft.
Cromwell & Franklin's No. 1 Thompson, SW cor. NE NE Sec. 15-12-3w ..... Fishing 4-inch liner, 6,840 ft.
Cromwell & Franklin's No. 1 Gross, SW cor. NE SW Sec. 22-10-2w ..... Shut down 4,702 ft.

CREEK COUNTY

Lima O. & G. Co.'s No. 1 Grayson, NW cor. NE NE, Sec. 11-14-7 ..... Dry and abandoned, total depth 4,020 ft.
J. J. Schock's No. 1 Harjo, NW cor. NE NE Sec. 26-14-10 ..... Location.

CANADIAN COUNTY

T. B. Slick and others' No. 1 Pazowrech, NW SE Sec. 29-12-5w ..... Hole full of water 4,338-4,452 ft.; shut down 4,580 ft.
Ramsey Brothers' No. 1 Newman, CSL NE Sec. 9-11-7w .. Moving in rotary 4,675 ft.

LINCOLN COUNTY

Bu-Vi-Bar Petroleum Co.'s No. 1 School Land, C NE SE Sec. 16-13-4 ..... Shut down 4,500 ft.

OKFUSKEE COUNTY

Prairie Oil & Gas Co.'s No. 1 Gray, SW cor. SW Sec. 19-11-7 ..... Dry and abandoned 4,835 ft.
Moose & Daniels' No. 1 Stidham, SW cor. NW Sec. 4-11-10 ..... Shut down 622 ft.

SEQUOYAH COUNTY

Citizens Gas Co.'s No. 1 Johnson, NE SW NE Sec. 32-12-7 ..... Sand 1,215-25 ft.; 1,500,000 ft. gas; shut in.
Hunt and others' No. 1 Unknown, SE cor. NW SW Sec. 13-12-23 ..... Spudded and shut down.
Western Natural Gas Co.'s No. 1 Green, SW cor. SE Sec. 17-11-17 ..... Spudded.

POTTAWATOMIE COUNTY

Shaffer-Kilgore-Sykes' No. 1 Ives, C SE SE Sec. 12-10-3 ..... Shut down 5,327 ft.
Prairie Oil & Gas Co.'s No. 1 Lumbley, SW NW SE Sec. 1-10-5 ..... Dry and abandoned 4,780 ft.
Central Commercial Oil Co.'s No. 1 McCrain, NW cor. NE SW Sec. 16-10-5 ..... Dry and abandoned 4,791 ft.
Superior Oil Co.'s No. 1 Herminghausen, SW cor. NW NE Sec. 34-8-2 ..... Drilling 4,375 ft.
Davy & Detrick's No. 1 McGehee, SW SE NW Sec. 10-6-2 ..... Fishing 4,998 ft.
Amerada Pet. Corp.'s No. 1 Gravel, SW SE NE Sec. 1-8-4 ..... Wilcox sand 4,479-85; hole full of water; drilling.
T. B. Slick & Roxana Pet. Corp.'s No. 1 Hurst, SE cor. NW NW Sec. 17-7-2 ..... Moving in tools.

CADDO COUNTY

Magnolia Petroleum Co.'s No. 1 Shelby, SW cor. SW Sec. 28-10-12w ..... Drilling 2,660 ft.
J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w .. Shut down 150 ft.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w ..... Shut down 3,394 ft.
English Drilling Co.'s No. 2 Pruitt, CNL NW SE Sec. 22-6-10w ..... Rigging up rotary.

OSAGE COUNTY

Prairie Oil & Gas Co.'s No. 1, SE cor. NE Sec. 11-24-6 .... Sand 2,694-97 ft., pumping 15 bbls., completed.
Devonian Oil Co.'s No. 1, NW cor. SE Sec. 18-22-8 ..... Shut down 3,115 ft.

SEMINOLE COUNTY

T. B. Slick's No. 1 School Land, SE cor. SE Sec. 16-6-5 .. Drilling 2,250 ft.
Roxana and Barnsdall's No. 1 Stidham, NW cor. NE Sec. 6-10-7 ..... Location.
Prairie Oil & Gas Co.'s No. 1 Davis, NE SE Sec. 21-10-7 .. Rig.
Prairie Oil & Gas Co.'s No. 1 Varnum, NW cor. SW SW Sec. 5-9-6 ..... Swabbing 126 bbls. from Hunton lime; total depth 4,239 ft.
The Texas Company's No. 1 Reed, SW cor. SW Sec. 12-8-5 ..... Wilcox sand 4,720 ft.; hole full of water; dry and abandoned; running tubing to pump.
Twin State Oil Co.'s No. 1 Walker, NE cor. NE Sec. 5-7-6 ..... Rig on ground.
Simon & Bean's No. 1 Palmer, SE cor. NW NE Sec. 7-7-6 ..... Rigged up and shut down.
Barnsdall Oil Co.'s No. 1 Guinn, SW cor. SW Sec. 16-7-5 .. Drilling 1,395 ft.
Indian Terr. Ill. Oil Co.'s No. 1 White, NE cor. NE SW Sec. 21-7-5 ..... Drilling 3,125 ft.
Reiter-Foster Oil Co.'s No. 1 Coat, SW cor. NW SW Sec. 14-7-6 ..... Spudding.
Indian Territory Illuminating Oil Co.'s No. 1 Marshall, NW NW SW Sec. 32-7-7 ..... Wilcox sand 4,810-20 ft.; dry and abandoned.
Magnolia Petroleum Co.'s No. 1 Vierson, SE SE NW Sec. 5-8-7 ..... Drilling 4,386 ft.
Gardner Petroleum Co.'s No. 1 Unknown, NW cor. SE Sec. 36-6-7 ..... Dry and abandoned 3,008 ft.
Fuhrman Petroleum Co. and Superior Oil Co.'s No. 1 Davis, SW SW SE Sec. 3-10-6 ..... Location.
C. W. Whitney's No. 1 Harjo, NE cor. NW NE Sec. 25-7-6 ..... Drilling 480 ft.
Blackwell Oil & Gas Co.'s No. 1 Mitchell, SE cor. NE SW Sec. 6-10-7 ..... Drilling 2,790 ft.
E. W. Whitney's No. 1 Harjo, NE cor. NW NE Sec. 25-7-6 ..... Drilling 2,620 ft.
Shaffer Oil & Ref. Co.'s No. 1 Catchochee, SW cor. SW NE Sec. 18-10-7 ..... Rig.
Santa Fe . Co. and others' No. 1 Harrison, SW cor. SW SE Sec. 4-7-7 ..... Rig.
Tidal Oil Co.'s No. 1 Foster, SW cor. SE SE Sec. 7-7-7 .. Drilling 1,000 ft.
Roxana Pet. Corp.'s No. 1 Johnson, NE cor. SE NE Sec. 20-6-5 ..... Location.

DEWEY COUNTY

Huckaby & McCoy's No. 1 Perfect, NE cor. NE Sec. 9-18-15w ..... Shut down 3,370 ft.

BECKHAM COUNTY

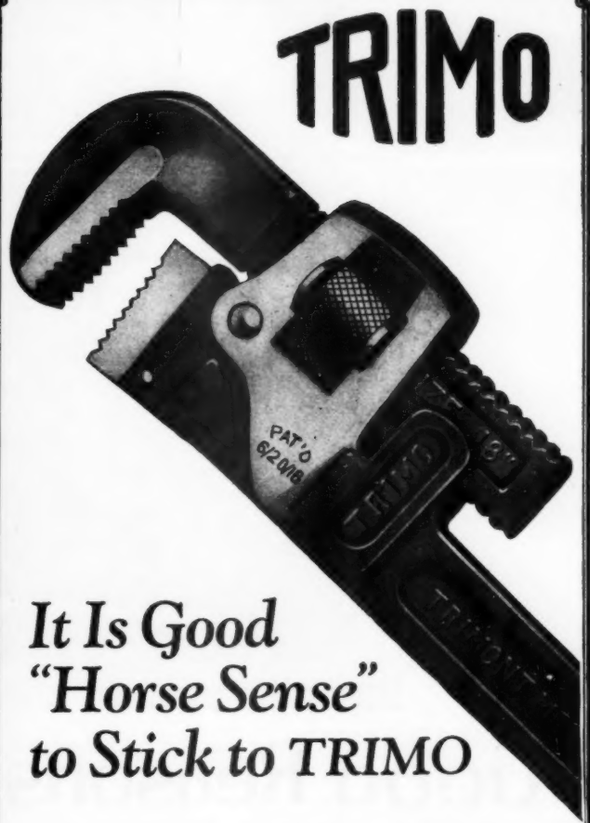
C. & H. Petroleum Co.'s No. 1 Barnes, SW cor. NW NE Sec. 32-9-22w ..... Shut down 3,800 ft.

ATOKA COUNTY

G. S. Cochran's No. 1 Hampton, NW cor. NW Sec. 21-1-14 ..... Rig.
Pferffel and others' No. 1-A Carter, NE cor. NE Sec. 35-3-22w ..... Shut down 300 ft.

GRADY COUNTY

Clark & Cowden's No. 1 Freed, NE cor. SW SW Sec. 33-5-7w ..... Rig.
Remington and others' No. 1 Fryrear, SW SW NE Sec. 13-3-5w ..... Shut down 720 ft.; may start soon.
Bedner and others' No. 1 Willis, C SW NW Sec. 13-7-5w ..... Shut down 2,450 ft.



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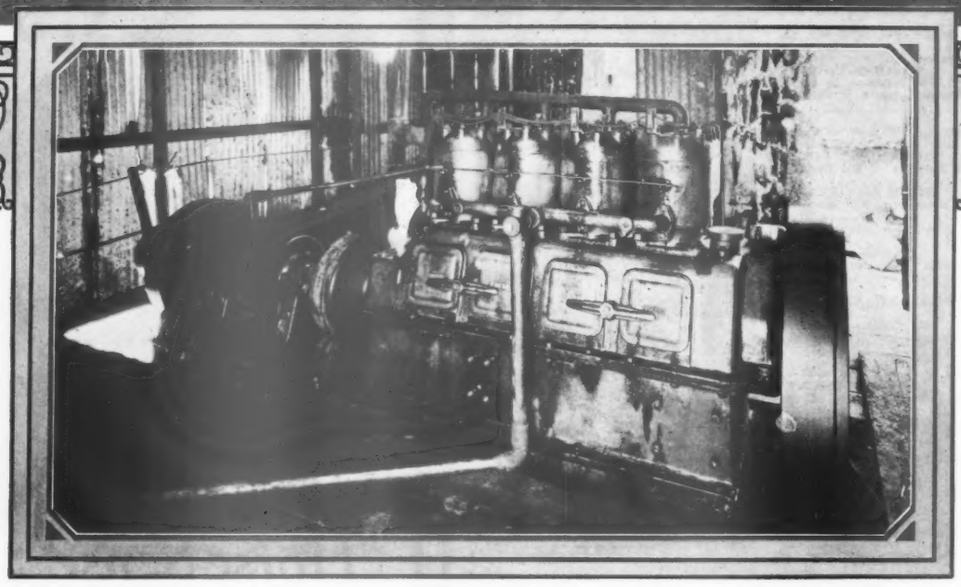

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CLARK

Nichlos & Page's No. 1 Drake, SE NE SE Sec. 7-5-7w...Shut down 2,307 ft.
Wirt Franklin Petroleum Co.'s No. 1 Garden, SE cor. SW NE Sec. 1-4-7w ..... Sand 2,003-12 ft.; 1,000,000 ft. gas.
Commercial Development Co.'s No. 1 Chrisman, C NE NE Sec. 21-4-7w ..... Drilling 1,200 ft.
Magnolia Petroleum Co.'s No. 1 Pursley, SE SW NW Sec. 8-4-6w ..... Dry and abandoned 3,905 ft.
Simpson & Fell's No. 1 Long, SW cor. SE SE Sec. 36-5-7w ..... Rig.
Galt Brown Oil Co.'s No. 1 Burrey, C NW NE Sec. 14-4-9. Drilling 1,200 ft.

M'INTOSH COUNTY

Marlone Oil Co.'s No. 1 Sanders, NW cor. NE SW Sec. 10-9-18 ..... Shut down 2,250 ft.

CLEVELAND COUNTY

Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w ..... Sand 2,784-2,768 ft., dry; shut down 2,975 ft.

KIOWA COUNTY

Blue Mountain Oil Co.'s No. 1 Jones, SE cor. NW NW Sec. 17-5-14w ..... Drilling 525 ft.
Gould and others' No. 1 Patton, NW cor. SW SE Sec. 17-5-14w ..... Dry and abandoned 380 ft.
Johnson & McDowell's No. 1 Thompson, SW cor. NE Sec. 6-6-15w ..... Drilling 420 ft.
Dave Malernec's No. 1 Van Kirk, NW cor. NW Sec. 35-7-15w ..... Casing 490 ft.
A. C. Varner and others' No. 1 Bonham, CSL NW NW Sec. 5-6-18w ..... Shut down 1,127 ft.

PONTOTOC COUNTY

Gillespie & Gant's No. 1 Taylor, SW SW SE Sec. 13-5-4..Sand 2,818-52 ft., water; plugged back 2,570 ft., shot 80 and 20 quarts; swabbed 29 bbls.; shut down.
T. B. Slick's No. 1 Barnett, NE SE NW, Sec. 13-5-6.....Underreaming 3,918 ft.
Mid-Continent Petroleum Corp.'s No. 1 Harjo, SE NE NE Sec. 14-5-7 ..... Sand 2,618-22 ft.; 10,000,000 ft. of gas.
T. B. Whitney and others' No. 1 Moore, SW cor. SE Sec. 17-5-9 ..... Shut down 2,654 ft.
Winkler and others' No. 1 Timer, C SW SE Sec. 31-5-9..Shut down 2,761 ft.
R. F. Garland's No. 1 Strickland, SW NW SW Sec. 10-4-3 ..... Shut down 2,650 ft.
Marland Oil Co.'s No. 1 Lawrence, C SW SE Sec. 10-4-4..Dry and abandoned 2,196 ft.
C. J. Shervin and others' No. 1 Wright, NW NE NE Sec. 13-4-6 ..... Underreaming casing 2,020 ft.
Boles and others' No. 1 Rayburn, SW SE Sec. 35-4-6.....Shut down 1,340 ft.
Texas-Pacific Coal & Oil Co.'s No. 1 Stewart, C SW NE Sec. 11-5-5 ..... Repairing rig 2,314 ft.
Henry and others' No. 1 Gregg, SW SE NW Sec. 14-4-7..Shut down 1,090 ft.
Oklahoma Portland Cement Co.'s No. 1 Mathews, C SW NW Sec. 24-4-7 ..... Drilling 1,790 ft.

GARVIN COUNTY

Dixie Oil Co.'s No. 1 Perkins, SE NW Sec. 15-4-1 ..... Drilling 5,220 ft.
Magnolia Petroleum Co.'s No. 1 Vaughn, NW SW NW Sec. 12-3-1 ..... Drilling 5,434 ft.
Heath & Bauman's No. 1 Hatfell, SW SE SW Sec. 10-3-3 ..... Shut down 1,640 ft.

COMANCHE COUNTY

Jolly-Ogg Oil Co.'s No. 1 Neeley, SE NE Sec. 24-3-10w...Drilling 2,370 ft.
Ashcraft and others' No. 1 School Land, SE cor. SE Sec. 20-2-10w ..... Broken sandy lime 822-954 ft.; swabbed 3 bbls.; total depth 975 ft.; shut down; material moved out.
Jenkins and others' No. 1 Smith, SW cor. SE SE Sec. 34-1-10w ..... Shut down 1,530 ft.
Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w..Reaming pipe 3,315 ft.

COAL COUNTY

McGraw and others' No. 1 Patton, SW SE NE Sec. 35-1-8 ..... Drilling 1,138 ft.
Indian Territory Illuminating Oil Co.'s No. 1 Harris, SW cor. NW Sec. 10-1-11 ..... Will shoot to try and clean hole; total depth 1,725 ft.

OKLAHOMA PANHANDLE
CIMARRON COUNTY

Phillips and others' No. 1 Unknown, NW cor. NW Sec. 24-6-2 ..... Shut down 4,340 ft.
Sinclair Oil & Gas Co.'s No. 1 School Land, NW cor. NW Sec. 28-5-2 ..... 4,872 ft., will plug.
Ramsey Brothers' No. 1 School Land, NE SW SW Sec. 21-5-5 ..... Drilling 3,755 ft.
Ramsey Brothers' No. 1 Unknown, NW NE Sec. 27-5-5...Shut down 4,100 ft.
Ramsey Brothers' No. 1 School Land, SE SE Sec. 34-4-1..Drilling 3,850 ft.
Gladys-Belle Oil Co.'s No. 1 Iserial, SW NE Sec. 25-3-7...Plugging 4,392 ft.
Valerius & Wilkinson's No. 1 Unknown, SE cor. NE Sec. 25-2-7 ..... Drilling 2,545 ft.
H. F. Wilcox Oil & Gas Co.'s No. 1 Zea, NE SW Sec. 28-3-13 ..... Shut down 3,765 ft.
Skaer and others' No. 1 Mathis, SW NE NE Sec. 17-3-23..Drilling 3,227 ft.
Ross Fenton and others' No. 1 Graves, NE NE Sec. 2-2-9..Spudded and shut down.

TEXAS COUNTY

Danner Oil Co.'s No. 1 Graves, NE cor. SW SW Sec. 23-2-18 ..... Shut down 700 ft.
Newsom and others' No. 1 Allison, SE SE Sec. 4-1-12 ....Shut down 4,040 ft.
Dotton and others' No. 1 Baker, C NW Sec. 4-1-13.....Rig blown down.
H. & H. Oil Co.'s No. 1 Hitch, NE cor. NE Sec. 26-1-15...Shut down 600 ft.
Three Way Oil Co.'s No. 1 Cane, SW NW Sec. 11-1-18...Hole full of water at 3,318-58 ft.; shut down.
Conley and others' No. 1 Unknown, SE cor. NW Sec. 5-1-19 ..... Spudded and shut down.
Texas County Gas Co.'s No. 1 Bacon, C NE NE Sec. 17-3-15 ..... 10,000,000 ft. gas 2,606-42 ft.

SOUTHERN OKLAHOMA
BRYAN COUNTY

Green Oil & Ref. Co.'s No. 1 Kemp, SE cor. NW NW Sec. 28-8s-9 ..... Shut down 600 ft.
Alexander & Oppenheimer's No. 1 Hampton, SE cor. NE Sec. 26-7s-11 ..... Shut down 1,425 ft.

JEFFERSON COUNTY

J. R. McCoy and others' No. 1 Smith, SE cor. NW Sec. 14-7s-6w ..... Rigged up and shut down.
W. Bassett's No. 1 Johnson, NE NW Sec. 15-6-8w ..... Location.
Amerada Petroleum Co.'s No. 1 Emerson, NW cor. SE SW Sec. 28-5s-8w ..... Drilling 960 ft.
Wirt Franklin Petroleum Co.'s No. 1 Foster, CNL NW SW Sec. 35-45-4e ..... Spudded.

CHOCTAW COUNTY

Hugo Gay's No. 1 Smith, SE cor. SW NW Sec. 27-6s-16...Shut down 1,540 ft.
Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-19 ..... Shut down 1,346 ft.

TILLMAN COUNTY

Bray and others' No. 1 Barker, NE cor. SW NW Sec. 9-1-15w ..... Drilling 650 ft.
A. N. Pearson's No. 1 Mounts, SW cor. SW Sec. 3-5s-15w..Rig.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-16w ..... Drilling 2,540 ft.

MARSHALL COUNTY

Laurel Oil & Gas Co.'s No. 1 Chastine, SE NW Sec. 26-4s-5 ..... Dry and abandoned 4,190 ft.
Magnolia Petroleum Co.'s No. 2 Marshall, SW cor. NW SW Sec. 26-5s-7 ..... Dry and abandoned 730 ft.
Alter and others' No. 1 Brown, NE cor. NW NW Sec. 11-4-6 ..... Dry and abandoned 201 ft.

STEPHENS COUNTY

Pierce & Brown's No. 1 Garland, SE NW NE Sec. 34-2s-6w ..... Shut down 1,700 ft.
Ward, Martin & Smythe's No. 1 Vestal, NE cor. SE Sec. 7-3-7w ..... Rig.
Geo. Pace and others' No. 1 Absher, NW cor. NW Sec. 7-3s-7w ..... Rig.

JOHNSTON COUNTY

McPherson and others' No. 1 Wyand, CSL NE NW Sec. 7-2s-9 ..... Shut down 4,440 ft.
Wapanucka Oil Co.'s No. 1 Banks, Sec. 28-2c-9 ..... Shut down 1,530 ft.

CARTER COUNTY

Grooms and others No. 1 Morris, CSL NW NE Sec. 19-1s-2w ..... Shut down 3,463 ft.

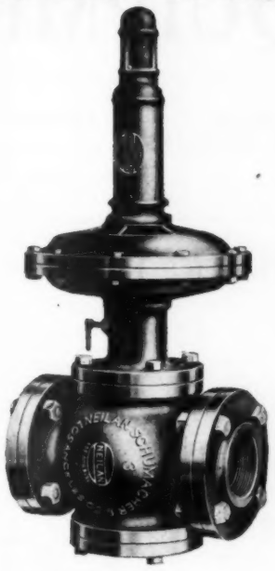
MURRAY COUNTY

Thompson Oil Co.'s No. 1 Freeman, SE cor. Sec. 27-1s-2...Rig.
Gilcrease Oil Co.'s No. 1 Wolf, SE cor. NE Sec. 20-1-2....Drilling 1,600 ft.
Revels & Magee's No. 1 Labor, NW cor. NW Sec. 17-1-2...Shut down 240 ft.
Alter and others' No. 1 Johnson, SW cor. NW Sec. 14-4-7..Spudded.

LATTIMER COUNTY

Limestone Oil & Gas Co.'s No. 1 McMurray SW cor. SW Sec. 15-5-18 ..... Shut down 1,700 ft.

For Super-Sensitive Regulation



NEILAN
SPRING - LOADED
REDUCING GAS REGULATOR
No. 15

Compact, light in weight, and completely tamper-proof and weather-proof. It has no stuffing boxes or levers, weights or toggles. Once adjusted it requires no further attention. Simple to set for any desired outlet pressure. An adjusting screw under the cap on top of the spring barrel is turned to the right for higher pressure, and to the left for lower pressure.

The diaphragms of this regulator are extra large and the valve responds to the slightest variation of pressure on the diaphragm surface. There are no stuffing boxes or other large friction surfaces. Long springs of large diameter produce great valve movement and extreme sensitiveness, thus insuring constant outlet pressure.

The long, flexible springs give a wide range of outlet pressure. Large valve ports and ample clearances allow passage of full capacity of the inlet pipe.

Furnished with standard cast iron bodies for inlet pressures up to 200 lbs.; extra heavy for inlet pressures up to 400 lbs.; cast steel bodies with hardened tool steel seats for inlet pressures of 500, 750, 1,000 and 1,500 lbs. Let us send you descriptive Bulletin No. 10.

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"You Can Be Sure of Neilan Products"

EQUIPMENT AND SUPPLIES

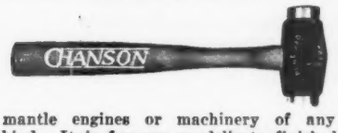
PIPE TOOLS CAUSE OF MANY GRAVE MISHAPS

The fact that pipe tools cause many serious accidents in the petroleum industry is stressed by the United States Bureau of Mines, Department of Commerce, following a study of the subject recently conducted in Oklahoma. In general, pipe tools do not suggest the possibility of causing injuries that may cripple a man for life, states H. C. Fowler, petroleum engineer, in a report just made public. To the casual observer, many parts of the machinery at drilling and producing wells apparently present hazards that are far more obvious, but in a review of the petroleum accident records of Oklahoma it was found that "pipe tools, including tongs and wrenches, circle jacks, and casing poles, caused more accidents than any other equipment at the wells." Of 720 accidents due to machinery and equipment at drilling and producing wells, 142 were caused by such tools.

In the aggregate, these accidents caused loss of work amounting to 4,888 days, or 13.4 years, in Oklahoma alone. On the derrick floor a pipe tool is taken to mean a device used to aid in screwing and unscrewing sections of tubular goods or other pieces of drilling and pumping equipment that go together with threads.

THIS HAMMER DOES NOT MAR

The Chanson soft-faced hammer, manufactured by the Chanson Division Illinois Iron & Bolt Co., Carpentersville, Ill., is designed for the mechanic or machinist who has to assemble or dismantle engines or machinery of any kind. It is for use on delicate finished parts, gears, sprockets and other precision units which might be damaged by a blow from an ordinary hammer. Plugs, accurately machined to a pressed fit in the steel body of the hammerhead, are removed easily with a drift pin when replacement is necessary. The hammer comes in five sizes and seven models.



MAKING HYDRAULIC STOPCOCK

The Bartlesville Supply Co. of Missouri, St. Louis, Mo., has introduced a new Barsco product, a hydraulic stopcock. This stopcock is especially adapted for oil field application and service on any line handling steam, water, gas, oil, or air, and has a particular advantage when used in connection with rotary slush pumps.

In actual service tests Barsco stopcocks have been put in use and reused on up to six-well installations. It is constructed with a special Barsco steel body and the moving parts are of the same metal. They are practically indestructible.

Other advantages of this stopcock are that no grease or other lubricant is used to collect dirt, form scale, or cause sticking. It is fitted with especially designed pack in both ends. One quarter turn of the wrench is all that is necessary to open and close the cock. The core or plug cannot break or stick. The turning action is positive. A 15-ton lift on the core with a 14-inch wrench assures positive opening. No hammering is necessary. The valve can be repacked under pressure either open or closed.

These valves are made in sizes of 1¼, 1½, 2, 2½, 3 and 4-inch and adapted for pressure service up to 2,000 pounds with ample safety factor.

FOURTEEN PUMPS ORDERED

Orders for the construction of 14 more pumps have been received at the shops of the National Transit Pump & Machine Co., the principal subsidiary of the National Transit Co., in Oil City, Pa.

An order for six single hot oil pumps was received from the Louisiana Oil Refining Co. of Shreveport, La.

The Tide Water Pipe Co. of Bradford, Pa., ordered a horizontal triplex pipe line pump with a capacity of 16,000 bbls. daily. This will have a 5⅛-inch plunger and 24-inch stroke.

The Humble Oil & Refining Co. of Houston, Tex., increased its recent large pump order by seven pumps for refinery purposes.

REGAN MEN TOUR OIL FIELDS

A two-months' tour of virtually every oil field in the United States is being made by Joseph M. Regan, president, and Bert Cleveland, general sales manager, of the Regan Forge & Engineering Co., San Pedro, Calif. Following their arrival in New York by steamer from New Orleans after visiting the Mid-Continent and Gulf Coast fields, they will start westward again, taking in various oil fields of Pennsylvania, Kansas, Colorado and Wyoming. They are accompanied by Mr. Regan's son, Thomas Regan, a member of the engineering department.

SHIFTS MADE IN SALES FORCE

The Black & Decker Manufacturing Co., Towson, Md., has made several changes in its sales organization, and the following men are now in the territories indicated: H. L. Balke in with the Kansas City branch; G. F. Parr is with the Buffalo office, taking over the territory of J. H. Hutton; G. N. McCarthy has filled the vacancy at the Buffalo office made by the transfer of H. B. Austin to Chicago; J. A. Murray is in Baltimore, taking over the accounts formerly handled by Curtiss Watts; H. B. Hazerodt has resigned as manager of the Detroit branch and J. H. Walker, a salesman in that territory for five years, has been appointed to succeed him.

The Detroit branch of the company has moved its office and service station to 11501 Woodward Avenue. J. H. Walker is manager.

TO MAKE PREFORMED ROPE

The Hazard Wire Rope Co., Wilkes-Barre, Pa., has been licensed by the American Cable Co., Inc., Chicago, to manufacture Tru-Lay preformed wire rope and Tru-Loc processed fitting. In Tru-Lay rope the strands and wires of the cable are preformed, resulting in longer life and better service. Licenses have been granted also by the American Cable Co. to the Dominion Wire Rope Co., Ltd., Montreal, Canada; Bruntons, Musselburgh, Scotland, and Felton & Guilleaume Carlswerk, Cologne, Germany.

BETHLEHEM STEEL NOW OPERATING ITS NEW MILLS

View of No. 1 and No. 2 butt mills at Sparrows Point.

Bethlehem Steel Co. is now operating all of the units of its new pipe mills at the Maryland plant, Sparrows Point, Md. These comprise two butt mills for the manufacture of butt-welded pipe, from one-eighth-inch to 3 inches in diameter; two lap mills, to manufacture all sizes of lap-welded pipe, from 2-inch to 16-inch; a galvanizing department, and all auxiliary equipment together with large warehouse facilities.

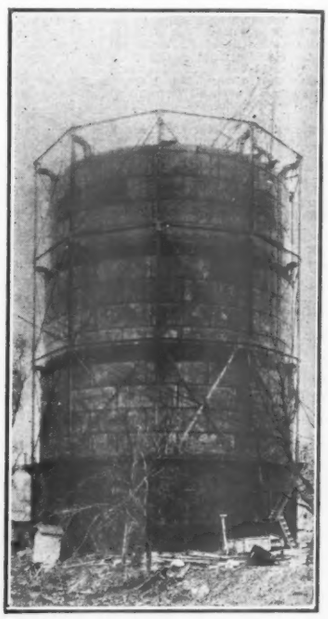
These mills form an integral part of a self-contained plant. This makes it possible to exercise close supervision of each stage in manufacture from the receipt of the raw materials, such as iron ore, down to the delivery of the finished pipe.

Deep-water docks available to the largest ocean-going vessels permit direct shipment by water to all intercoastal points as well as European and other foreign ports. Three railroads—Pennsylvania, Baltimore & Ohio and Western Maryland—afford inland shipping facilities.

A new and modern warehouse, 640 feet long by 110 feet wide, served by two cranes, has storage capacity for a large tonnage of butt and lap-welded pipe of various diameters. In addition to the ability to make prompt shipments from stock, the plant has been so designed that, when necessary, shipments can be made direct from each mill without going through the warehouse, special trackage to the finishing departments being provided for this purpose.

LARGEST ARC-WELDED GAS-HOLDER IS BUILT

There has just been completed at Albion, Mich., the largest all electric arc-welded low-pressure gas holder ever built. The construction and design are both the work of the Western Gas Construction Co. of Fort Wayne, Ind. The holder with all lifts elevated to their maximum height stands 113 feet 7 inches above the foundation. It has a diameter of 74 feet and weighs 516,385 pounds plus the weight of the welding rod that was used.



The largest arc-welded gas holder yet made is shown in this picture. It stands 113 feet, 7 inches high and has a diameter of 74 feet. Seventy per cent of the welding necessary for complete fabrication was placed in the field.

The gas holder has a capacity of 300,000 feet of gas at a water pressure, when full, of 12 inches.

A 15,000-foot single-lift gas holder of all arc-welded steel construction was built by the Western Gas Construction Co. for the Missouri Gas & Electric Co. at Lexington, Mo., in 1924, and with this one exception, the Albion holder is the only low-pressure gas holder built entirely by arc welding.

On this Albion job the plates were assembled in position with bolts and tack welded with the exception of the cups and grips, which were fabricated in the shops, assembled in sections on the ground, and welded in place.

The bottom was assembled and welded on the foundation which was 3 feet below yard level and incidentally in this case, below the water line.

In laying the crown, a wooden understructure was built on which the plates could be laid. When this was ready, the plates were swung into position and tack welded. They were laid in circular rows from the outside to the center, each succeeding course being lapped over the one before. As the plates were placed they were tack welded to hold them in position and when all was ready the finishing welds were made. Four tons of electrode welding rod were used.

Credit for solving engineering problems in connection with this installation is given to F. H. Beebe, vice president of the Western Gas Construction Co.

Nobody

attempts infringement UNLESS the original is mighty good!

Concerning Patent No. 1,573,031

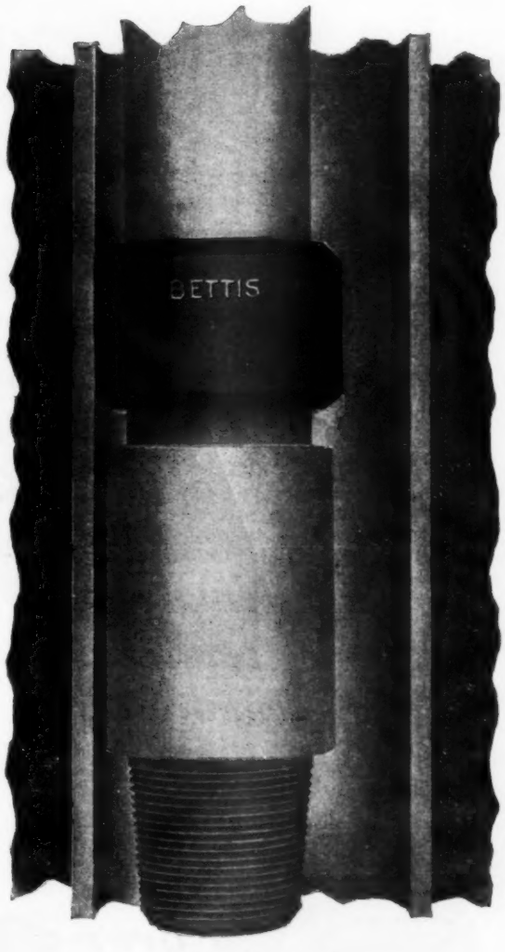
The adoption of rubber casing protectors by leading oil producers is a signal tribute to the ingenuity of the inventor of Bettis Casing Protectors and to Patterson-Ballagh engineers. Within a period of two months more than 14,000 were installed.

The wide-spread endorsement of our Product, known as Bettis Casing Protectors, fully justifies the years devoted to developing and improving the article to a point where we were ready to place it on the market with fullest confidence.

Our attention has been called to apparent attempts recently made by certain manufacturers to infringe upon Bettis Casing Protectors. Our U. S. Patent No. 1,573,031 and foreign patents fully protect us as well as our hundreds of good customers. So when you order rubber casing protectors be sure to *specify* Bettis and avoid substitution.

Ask for folder.

Patterson-Ballagh Corporation
3769 Moneta Ave., Los Angeles, Calif.

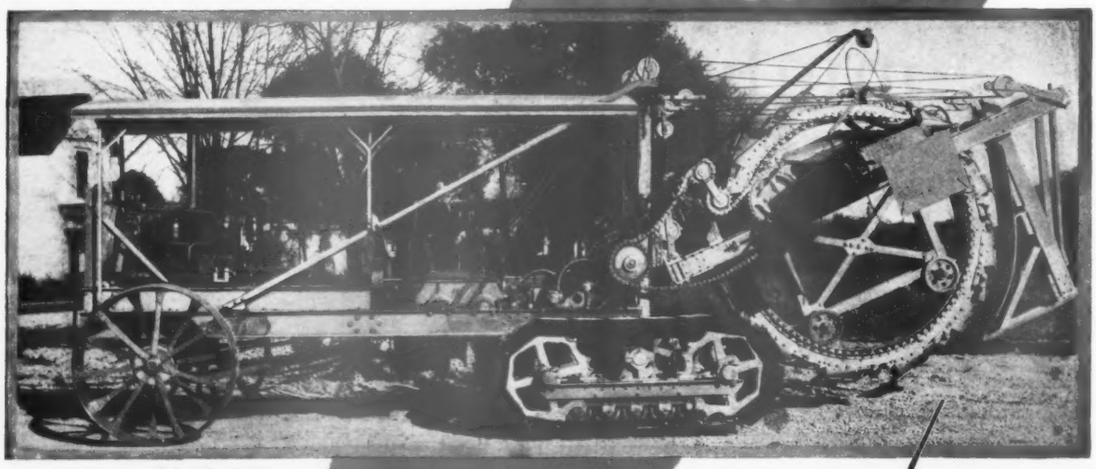


"Best bet yet"

Bettis Casing Protector

Sixteen digging speeds
Alligator traction brakes
Practically *All-transmission* control

New PIPE LINE DITCHER



See the Buckeye Exhibit at the American Gas Association Convention, Dallas, Texas, May 7th to 10th. Booths Nos. 505 to 513, inclusive, Manufacturers' Building.

Built to the specifications of the world's leading pipe-line engineers and contractors

Buckeye Model 32

"The *only* ditcher that will meet *all* oil-field requirements." That's what owners claimed for previous Buckeyes.

Model 32 makes them even more enthusiastic over Buckeye performance. It has all of the old favorite Buckeye working features. It embodies, too, many new exclusive ones recommended by men actively in charge of the world's pipe line construction.

Among these preferred features are: Practically *all-transmission* control; power steering; 16 digging speeds—18" to 19' per minute; 2 digging wheel speeds; Alligator Traction brakes, permitting operation on steep grades; 72 h. p. heavy industrial Waukesha motor; 18" to 30" cutting widths, and 6½' cutting depth. Many others.

Write for complete description and price.

THE BUCKEYE TRACTION DITCHER COMPANY
FINDLAY, OHIO

There's a Buckeye Sales and Service Office near You

for over thirty years
Buckeye

MODERN DEEP WELL DRILLING PRACTICE IN THE GULF COAST

By Melbert Schwarz*
Production Engineer, Rio Bravo Oil Co.

Practically all of the derricks erected in the Gulf Coast of Texas and Louisiana are 122 foot either galvanized steel or wood with a 24 or 26-foot base and either reinforced with pipe, angle iron or with extra windlegging. The derricks are usually set either 4 or 6 feet above the ground level. The chief advantage in having the derrick floor 6 feet off the ground is that it is then possible to assemble the complete christmas tree under the derrick floor and out of the way in case it is necessary to drill in the well through a blowout preventer.

The derrick foundation is oftimes a rather unique engineering feat as many of these wells are drilled in swamps or marsh lands. In the Sweet Lake Field, the wells are drilled out in the lake in 8 to 10 feet of water, the bottom is comparatively level so an 80-foot by 40-foot mat is laid of 2-inch by 12-inches four layers thick with alternate layers crossed. This mat is sunk on the location and upon this a network of 8-inch by 12-inch cribbing is built up to serve as the derrick foundation. In many of the other fields where it is necessary to drill in the water, conditions are not so favorable and it is necessary to drive piling for the derrick foundation. On the Rycade Oil Corp.'s No. 5-A Cow Bayou, in the Orange Field, 140 piles, 18 to 20 inches in diameter were driven 18 feet into the ground in order to obtain a solid foundation for the derrick, engine base and standard rig. In this connection, the Roxana Oil Corp.'s No. 1 Allen Bernard, on the Allen Dome, Brazoria County, Texas, one of the deepest pumping wells in the Gulf Coast, total depth 5,337 feet, pumping depth 4,800 feet, is being pumped with pumping unit mounted on piling. There is scarcely any vibration noticeable in this installation and the successful operation of same is a sure proof of the foundation. Wherever the surface conditions will permit, the steel derricks are usually mounted on concrete piers set on a reinforced concrete mat, 10 feet square and 18 to 24 inches in thickness.

Equipment Used

Many of the deep wells drilled in the Gulf Coast have been successfully completed with rotary equipment that was not designed for so great a depth. This practice which in many cases was a matter of expediency could not be recommended as either good drilling or good engineering procedure and therefore most of the deep tests now in the process of drilling are equipped with larger and stronger machinery.

The boilers used are either 72, 84 or 100-horsepower, carrying 175 to 250 pounds steam pressure. Two boilers are set up with each rig and moved as part of the rig from location to location. With the installation of larger sized pumps and the correspondingly increased demand for steam, the 100-horsepower boilers are preferred.

The rotary engine commonly used is the 11-inch by 11-inch twin-cylinder steam engine, although some operators prefer the 12-inch by 12-inch twin. The larger size insures greater power in handling heavy loads but the smaller engine is more flexible and is rugged enough to withstand the loads occasioned in drilling a 6,000-foot well. The enclosed type of engine is rapidly gaining favor in this area as it insures better lubrication with the splash feed for main bearings, crank pins, connecting rod bearings and cross heads.

The rotary draw works commonly used is the three-speed air-cooled heavy duty type. The types in use have 6 and 7-inch drum and line shafts. Both types have three supports mounted on steel posts with plain babbittt-lined bearings on the line shaft and with either plain babbittlined bearings or bronze oil ring bearings on the drum shaft. A new heavy duty draw works is equipped with two roller bearing supports on the drum shaft. Practically all draw works are equipped with brake equalizer, line spooler and either automatic cathear or shotgun equipment.

The rotaries used are all chain-driven roller bearing make and break type with 19 or 20 inch opening through the table. The make and break type of rotary is universally used in this area because of the speed and ready adaptability in making up casing strings. The Rio Bravo Oil Co. has run 3,500 feet of 6⅝-inch 24-pound, 10-thread, seamless casing in six hours with this type of rotary.

Slush Pumps

The slush pumps are usually set off the derrick floor on a platform at ground level in order to insure a minimum lift and the mud fluid from the slush pit. The pump installation calls for two large mud pumps, 14-inch by 7¼-inch by 14-inch, or 14-inch by 7¼-inch by 16-inch, with 8-inch suction and 3-pound discharge lines. The chief advantage of these larger sized pumps lies in the increased volume of fluid handled in the large hole and as depth is attained the pump may be equipped with smaller liners in order to decrease the volume of fluid and correspondingly increase the pressure. The new design of pumps are built with a divided fluid end and this represents a big saving in pump repair to the operator. The pump manifold is so arranged that either pump can be used independently or the two compounded. By compounding the pumps and reducing the liners, pressures in excess of 2,000 pounds can be built up. The pump manifold is connected with a double stand pipe and rotary hose in order to make a quick swivel connection whenever a rotary hose is blown off. On some operations a third pump is set upon the edge of the slush pit in order to insure an auxiliary pump for compounding in case one of the drilling pumps should break down. The slush pit is built with a board partition across the center, the mud-laden fluid flowing from the long settling ditch into one side of the pit and then over the partition into the adjoining side where it is picked up by the pumps. This serves as an additional means of dropping the sand from the mud which is being circulated.

The rotary swivels are 6-inch extra heavy all-steel roller bearings with 3 to 4-inch bail. The swivels are equipped with safety chains attached to the mud hose. The rotary hose is usually 2½ inches by 35 feet with long extra heavy hose clamps.

The 6 or 8-inch wigle spring hook with the automatic spring latch is used in connection with extra heavy elevators with 2½-inch or 3-inch by 6-foot links.

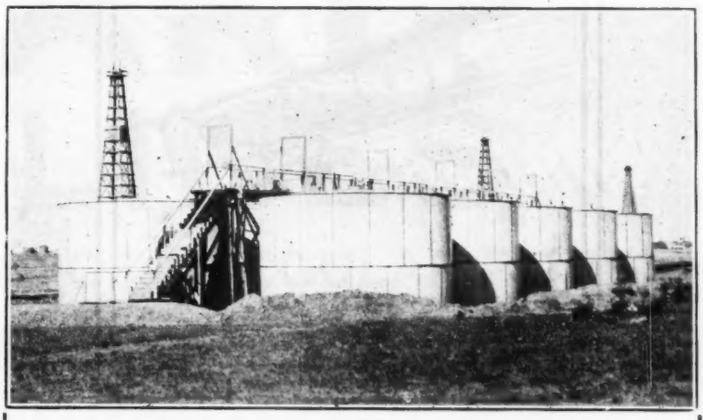
The traveling blocks are the three or four-sheave type equipped with roller bearings. The sheaves are manganese steel 30 to 36 inches in diameter grooved for either a 1-inch or 1⅛-inch line. The usual practice is to string up a three-sheave traveling block until it becomes necessary to use more than six lines.

Crown Blocks

The crown blocks in most common use are still those of the old type but made on a heavier and larger design; that is, with 12-inch heavy structural steel I-beams in the frame and with 24-inch sheaves of special manganese steel. In this connection, the Vacuum Oil Co. has designed a sheet iron shield that fits snugly over the sheaves in the crown block. This shield is equipped with wick-fed lubricating cups so spaced that the lubricating oil will drop on the line at the point of greatest spread while passing over the sheave. It also serves as a guide to prevent the line from jumping out of the sheave groove. The shield is clamped on one side of the block and loose on the other so that it can be raised and laid against the crow's nest rail out of the way whenever it is nec-

*Before A.P.I. Division of Development and Production Engineering, April 25, 1928, Fort Worth, Tex.

KEYSTONE COPPER STEEL



Ten 1,000-Bbl. Maloneys in Use by Carter Oil Company at Bowlegs in Seminole District.

MALONEYS LEAD
Through Sheer *Merit*

MALONEYS maintain leadership year after year because they excel in those qualities most desired in bolted steel tanks, namely, *durability* and *tightness.*

Manufacture of Keystone Copper Steel, a sheet steel unsurpassed for resistance to rust, insures the remarkable durability of MALONEY tanks. An exceptional degree of tightness is obtained by means of our patented "crimp" construction which assures close-fitting joints, together with the use of our specially developed rubber packing and our Gaso cement.

Other MALONEY features include rigid steel channel reinforcements throughout, bolts of 90,000 pounds tensile strength, scientific spray painting with Maloney special pearl gray paint, large cleaning out plates set flush with bottoms and the best valves and thief hatches on the market.

"Alone in Quality"

MALONEY TANK MFG. COMPANY
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Sizes: 12 to 10,000 Barrels

Packed in Steel-Bound Crates for Export

Howell Aluminum "3-in-1" Vacuum Pressure Valve and Thief-Hatch—The BEST and LATEST Deck Equipment—POSITIVE Safety.

MADE OF KEYSTONE COPPER STEEL

MADE OF KEYSTONE COPPER STEEL

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

MALONEY ALONE

For High-Speed Engines or Heavy-Load Machinery

WHATEVER your bearing requirements, Hoyt makes a babbitt especially suited to that particular machine. The Hoyt line is complete—manufacturers and users of machinery can simplify their purchasing by buying all their babbitt from one single source of supply and be sure that they are getting the finest babbitt that money can buy for the use demanded of it—and at less cost than any other reliable line of babbitts.

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Genuine "A" is the finest babbitt that money can buy, and yet it costs no more than any other good babbitt. In the long run, it is a real economy.

HOYT METAL CO., St. Louis
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Genuine "A" *Oil Engine*
Eagle "A" *Gas Engine*
Trojan *Faultless*
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Babbitt

essary to work on the sheaves. The new type of crown block in which the sheaves are aligned with the sheaves of the traveling block is fast gaining favor. The sheaves in this block are the same diameter as those in the traveling block and are equipped with roller bearings in order that they may be used interchangeably. These larger sheaves prolong the life of the wire line and insure speed in operation. In this design of block the line always spools in the same direction without being twisted due to the crossed line used in stringing up the old type of block, and this also tends to prolong the life of the line and of the sheaves.

The drilling lines used are either 1-inch or 1⅛-inch by 1,150 feet or 1,250 feet long. The long line is preferred because it can be used whenever it becomes necessary to string up eight lines. A weight indicator is usually fastened to the dead line after the well attains 4,000 feet in depth as this shows a relative change in weight more accurately than the driller can determine by the ordinary means.

The casing program to be pursued in drilling deep wells in the Gulf Coastal area is oftimes one of expediency. In this area due to lenticularity of the producing sand bodies it is imperative that a prospective oil sand be tested wherever it is encountered as this same sand horizon may be altogether absent or so altered as to be nonproductive in a location 50 feet away from the well bore. This unique condition makes the drilling of each well essentially a wildcat in so far as the location of the productive sand horizon is concerned. The customary casing program is to set from 1,200 to 1,500 feet of 12½-inch 50-pound lap-weld, 3,500 to 4,500 feet of 9¼ inch 36-pound seamless and 5,500 to 6,000 feet of 6⅝-inch 26-pound seamless. This program will permit of the setting of a string of 4¾-inch 15-pound seamless casing in case it is necessary to make a water shutoff below the 6⅝-inch. The 9¼-inch, 6⅝-inch, and 4¾-inch casing strings are usually cemented using the Halliburton method. In this connection, the Humble Oil & Refining Co. recently set 5,266 feet of 9¼-inch 40-pound A.P.I. casing in its No. 73 Simms-Smith, Goose Creek, Texas. This is the longest string of 9¼-inch casing ever set in the Gulf Coast. In running casing, it is customary to use a float shoe or cement shoe on the bottom of the string in order to float the casing into the hole, the casing being filled up with mud every few hundred feet. Just before reaching bottom with the casing string, circulation is secured and then with free circulation around the outside, the casing is lowered to bottom. As soon as the casing shoe touches the bottom, the pipe is pulled up enough to allow it to hang straight in the hole. The casing is then cemented with 150 to 300 sacks of oil well cement treated with an accelerator. After a string of casing has been cemented, the final cementing pressure is held on the well for a period of 48 hours and an additional 24 to 48 hours is then allowed before drilling out the cement plug.

Chief Difficulties

In drilling deep wells in the Gulf Coast, the two chief difficulties to be encountered are high pressure gas strata and heaving shale formations. Bitter experience has taught that both of these conditions can be more easily controlled in a hole of large bore with a maximum amount of clearance between the bore well and the drill pipe in order to insure a freer pump circulation. For these reasons, deeper drilling has brought about the use of larger sizes of drill pipe and casing. In spudding in a deep test in a lake bed or swamp it is often necessary to make a 24-inch hole to a depth of about 100 feet and set 18-inch pipe. However, customary practice is to spud in with an 18-inch hole using either 6-inch 25.2-pound, or 5 inch 22.2-pound drill pipe. This size of hole is carried to a good gumbo casing seat at about 1,400 feet and the 12½-inch casing is then landed without cementing. The 6-inch drill is laid down and the hole deepened with either 5-inch 22.2-pound, or 4-inch 16.6-pound drill pipe. If 4-inch drill stem is used it is customary to run a fourble of 6-inch drill pipe on the bottom of the string in order to insure a straighter hole. After setting the 9¼-inch casing, the fourble of 6 inch drill is laid out and the hole is carried on down with 4-inch 16.6-pound drill pipe equipped with a long 4-inch drill collar. This hole is carefully reamed every few hundred feet in order to keep it full gauge as the 8¾-inch hole is usually carried down until the sand horizon is tapped. In cases where the approximate depth of the producing horizon can be anticipated it is considered good practice to reduce the hole before drilling into the sand. However, this procedure often causes considerable delay as the hole is usually prematurely reduced and then must be reamed out down to the sand before running the casing. After setting and cementing the 6⅝-inch casing the 4-inch drill stem is laid out and a string of 3-inch 13.3-pound drill pipe is picked up to drill out the plug.

If the well is to be deepened much below the 6⅝-inch casing it is customary to run a thribble or fourble of 4-inch drill pipe on the bottom of the 3-inch string. Then if 4¾-inch casing is set and cemented, the 3 inch string is laid out and a string of 2½-inch 8.35-pound drill pipe is picked up to drill out the plug and to complete the well. All the drill pipe carries tool joints on doubles and by using a long kelly, a direct connection can be made without the use of greyhound joints.

The chief safeguard of the well hole is clean heavy rotary mud. In most parts of the Coastal area, an excess of good mud is made from the formations drilled and with a little precaution, a reserve supply of heavy drill mud is usually readily available by simply cutting the walls of a reserve mud pit built along the side of the mud ditch. The customary practice is to carry a 10 to 12-pound mud when drilling at great depth or when drilling in a prospective oil or gas area. Baroid, iron oxide or slush mix are commonly used whenever it becomes necessary to add weight to the drill mud or to wall off a high pressure gas strata. However, it is rather generally conceded that the too free use of these ingredients is injurous to an oil sand.

Completion of Wells

The completion of Coastal wells, that is, the setting of the strainer, is an operation of extreme delicacy for at this point a goodly number of prospective wells have been lost due to improper handling. In this connection, it is of prime importance that the oil sand be gauged in order to insure a screen of the proper sized mesh. There are two methods of setting strainer in general practice, the one—setting a full string of pipe with the strainer, and the other—setting the strainer with a packer sealing off inside of the casing string. Most operators prefer the latter method in setting a deep well as it insures a more thorough washing of the screen both outside and inside and when set through a blowout preventer, it assures all the safety precautions inherent in the one-string method. In order to recover the drill pipe, it is common practice, after the strainer has been washed and the packer set, to pump the casing full of heavy baroid mud, pull the drill stem and then bail the well in.

The christmas tree fittings behind the well choke are 2,500 to 3,000 pounds working pressure. Adjustable chokes are used extensively as they permit the operator a flexible but immediate control during that all-important period while the well cleans itself and then settles down to steady flow.

As a safety precaution, the high pressure valves and the blowout preventer are usually equipped with long handles reaching beyond the edge of the derrick floor.

In conclusion, it should be noted that the deeper drilling in this area has not occasioned the development of any new drilling practice, but has rather emphasized the advantage of larger type of rotary equipment and the necessity of setting larger sizes of casing.

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ROCKY MOUNTAIN AREA

(Continued from Page 51)

and camp and expects to commence spudding about May 1. This is to be a joint operation with the Moab Consolidated Oil Co., controlled largely by officers of the Midwest Refining Co. and affiliated interests. Utah Southern Oil Co.'s No. 1-A John L. Shaffer, SW Section 36-26-20, Cane Creek Dome, Grand County, is drilling at 920 feet in hard gray lime. Progress on this well has been slow on account of the extremely hard limestone in which it has been drilling, but softer formation is expected within the next 200 feet. Western Venture Corp.'s No. 1 Krumvieda, Section 6-5s-21e, on the Vernal monocline, 6 miles southwest of Vernal, has resumed drilling after setting casing at 753 feet with the first oil sand expected at 884 feet and total depth to be drilled estimated at 1,100 feet. Same company's No. 1 Spahr, Section 8-5s-21e, on the Dog Valley structure in Uinta County, is drilling at 260 feet. Gas pockets were encountered at 225 and 235 feet. The first objective in the Wasatch formation (Marine Eocene) is expected at 950 feet and all sands down to approximately 1,700 feet are to be tested. The Continental Oil Co.'s No. 1 Boundary Butte, Section 23-43-22, San Juan County, is drilling at 3,835 feet. The Texas Production Co.'s No. 1 Shipley, Section 5-27-14, Sweetwater structure, Wayne County, has cleaned out to the top of the first string of tools at 2,735 feet. Total depth is 2,885 feet., Midwest Exploration Co.'s No. 1 Early, Section 13-4s-6w, Duchesne County, is drilling at 3,835 feet in gray sandy lime. The Diamond Oil Co.'s No. 3, Section 29-8s-5e, Buskirk Dome, Utah County, is drilling in hard lime formation below 1,300 feet at which depth it cut a thin sand showing a little oil saturation. The Maude Ellen Oil Co.'s No. 1, Section 28-3s-21e, Uinta County, is drilling at 856 feet.

Colorado

The Indian Petroleum Co.'s No. 1 Gilmore, NW Section 4-45n-16w, in Montrose County, in western Colorado, was reported abandoned this week at 5,185 feet. The hole had been reduced to 4½inches and the depth making it impossible to test any lower horizons. This well commenced spudding in 1924 and was drilled originally by the Gilmore Oil Co. of Los Angeles, but was subsequently taken over by the Indian Petroleum Co. It tested what is known as the Naturita structure, a continuation towards the southeast of the Paradox anticline upon which the General Petroleum Corp. drilled three wells. It was located about 10 miles southeast of the nearest General Petroleum well on the Paradox structure. Little information concerning the Gilmore well is available, but as far as known, it does not appear to have encountered the thick salt beds found on the Paradox structure. This was the only drilling operation in that county. The Francisco Drilling Corp. and the D. O. M. Royalty Syndicate have cellar dug for No. 1 Colorado Title & Trust Co. in the SE NW, Section 27-50-10, and expects to commence moving in material the coming week. This is to be a test to approximately 3,500 feet.

In the southwestern corner of the State the Coon-Cotton Syndicate's No. 1 Hall, SW NW, Section 9-35-13, in Montezuma County, on the Mancos Dome, is being abandoned at 1,464 feet. This was a Dakota test and while water was found in the objective sands, there were several good oil and gas shows at higher horizons and it is probable that another test will be drilled. It had shows of oil and gas at 1,070-90, 1,119-23, 1,150-52 and 1,377-82 feet. Important water sands were cut at 1,295-1,302, 1,337-46 and 1,457-64 feet.

In Larimer County, the Union Oil Co. of California's No. 1 Gault-Piatt-Puleston topped the Muddy sand at 4,438 feet with oil showing in the hole and core drilling into the sand now is in progress. The Union company is the only operator on this structure. Its No. 7 Buckeye, SE Section 31-10-68, is fishing for pipe at 3,625 feet, and its No. 1 Scott, SE SW, Section 6-9-68, an old well being deepened, is drilling at 4,679 feet. The Scott well was completed in 1925 with an initial production of 700 bbls. in the Muddy topped at 4,489 feet, but recently has been off production. On the Fort Collins Dome, the Union's No. 1 Messerschmidt, NW cor. NE, Section 30-8-68, which is being deepened as a test to the Lakota sand, is drilling at 4,870 feet. It was completed in 1925 at 4,580 feet in the Muddy with an initial production of 300 bbls. Deepening commenced last February and the Muddy sand was found to be 70 feet thick. It has cut the Dakota, and is reported to have had a show of oil through 4,000 feet of water from that horizon. The next 50 feet are expected to show whether the Lakota is saturated or dry. Same company's No. 1 Cleary-Larson-Krause, SW NW Section 19-8-68, is drilling at 1,250 feet, and its No. 1 K.K.&B., SW cor. NE Section 19-6-68, is fishing for pipe at 1,455 feet.

Jackson County

In Jackson County, the Continental Oil Co.'s operation on the North McCallum and South McCallum Domes shows no material change. Its No. 1 Peterson, SW SW Section 1-9n-79, on the north dome, which blew in more than a month ago with a flow of 50,000,000 feet of carbon dioxide gas at 5,111 feet, is still shut down on account of the weather, but just as soon as possible, the plans are to deepen it if possible to the next horizon. It is spraying some oil with the gas. No. 1 Hoye, SW NE Section 34-9-78, on the south dome, is still having trouble with the gas from the Muddy sand at 4,875 feet and has not yet been able to kill the well so that drilling may continue. This gas, while apparently the same quality as that on the north dome, comes out of the casinghead at a temperature of approximately 20 degrees above zero, while the gas from the discovery well had a temperature of 110 degrees below zero at the surface. Difference in temperature probably is due to the quantity and pressure of the gas not being as great as on the north dome, and the slower expansion of the gas as it comes to the surface. The separator which was used for some time at the discovery well in an effort to separate the oil from the gas is being moved to the Hoye well and will be tried out to see what results can be obtained. The Continental's No. 1 Pollock, SE SE Section 2-9-79, which has been delayed for some time at 4,890 feet with a fishing job, is now sidetracking.

Moffat County

In Moffat County, interest at present centers in the Shaffer Oil & Refining Co.'s No. 205 Yarg, NW NW Section 26-4n-92, on the Iles Dome. It is bottomed at 3,720 feet, where it has been delayed by the 6¼-inch casing parting 1,300 feet from the top. It appears that the hole was not damaged by the string dropping and it is coming out nicely. The casing probably will be all out today. It will then be rerun and underreamed and lowered to the bottom and the hole mudded to shut off water from above before drilling into the Morrison sand, which is expected inside of the next 50 feet. It probably will be another week before the results will be known. The Texas Production Co.'s No. 17 State, NW SE Section 15-4-92, joint with the Kinney-Coastal Oil Co., which ranks next to the Yarg well in interest, is drilling at 3,375 feet. The Texas Production Co.'s No. 6 Parkinson, NW NW Section 23-4-92, is bottomed at 2,965 feet and underreaming the 10-inch at 2,940 feet, and its No. 13 Parkinson, NE SW Section 22-4-92, is drilling at 3,073. The Midwest Refining Co.'s No. 7-SD Parkinson, NW NW Section 23-4-92, is drilling in the Dakota sand at 2,915 feet and making 3,600 bbls. of water. This will be cased off after the hole is through the Dakota series, which are water bearing in all the wells. Same company's No. 8-SD-2 Parkinson, NW NW Section 23-4-92, is cleaning out cavings at 2,724 feet, and its No. 33-SD Parkinson, SW SE Section 22-4-92, is in the Dakota at 2,701 feet and cleaning out cavings preliminary to cementing the 10-inch. Its No. 4-M Shaw, NW NE Section 27-4-92, is fishing for 8¼-inch bit at a total depth of 3,280 feet. The Alliance Oil Co.'s No. 1 Milliken, SW cor. Section 14-4n-92, is drilling at 2,695 feet, corrected depth.

In Routt County, the Texas Production Co.'s No. 4 Belle Dennis, NE SE Section 7-6n-86, Tow Creek Dome, is setting up rotary at 70 feet, to which depth it was spudded with cable tools. This is a deep test to the Sundance. Same company's No. 3 Adair, SW cor. Section 8-6-86, is cleaning out at 3,020 feet, and No. 5 Quaintance, SE NE Section 18-6-86, is building rig. No. 2 Henry Dennis, NW NW Section 17-6-86, which is being deepened, is drilling at 2,960 feet. Western Oil Co.'s No. 1 State, SE NW Section 17-6-86, is fighting caving ground at 2,475 feet and will underream to lower casing.

In Rio Blanco County, the Texas Production Co.'s No. 1 Freeman, Section 27-3n-94, Wilson Creek Dome, is bottomed at 5,559 feet and underreaming the 6¼-inch at 5,546 feet.

Florence District

In the Florence district in Fremont County, Raddatz, Travis & Vogel's No. 17 Rodney, NW NE Section 28-20-69, in the south extension, made 150 bbls. initial from shale horizon at 1,800-1,950 feet and was completed at 1,950 feet. Same interests' No. 18 Rodney, NW NE Section 28-20-69, is drilling at 1,400 feet. The Texas Production Co.'s No. 1 Dunlop, NW SE Section 3-19-70, is drilling at 680 feet, and its No. 1 Ott, SW SE Section 3-19-70, is drilling at 1,435 feet. No. 2 Wilson, SE cor. NW Section 35-18-70, is shut down at 2,366 feet, and its No. 1 Castagna, NW SE Section 3-19-70, is drilling at 1,495 feet. The Continental Oil Co.'s No. 1 Dalfior, SE NE Section 3-19-70, is drilling at 2,095 feet, and its No. 1 Bromwell, NW SW Section 3-19-70, is drilling at 1,865 feet. Same company's No. 3 David Hall, NW SE Section 35-18-70, is drilling at 1,990 feet, and its No. 1 Machetti, SW NW Section 2-19-70, is drilling at 1,710 feet. Same company's No. 2 Dunn, NW SE Section 35-18-70, is drilling at 2,075 feet, and its No. 1 Adamic, NW NW Section 12-19-70, is drilling at 2,730 feet. The Continental's No. 1 Dunlop, SW SE Section 3-19-70, is drilling at 535 feet. Canon City Oil Co.'s No. 1 D.&R.G., SW SE Section 35-18-70, is drilling at 1,840 feet.

In Las Animas County, the Phillips Petroleum Co.'s No. 1 Haskins, Section 23-29-56, Red Rocks structure, is drilling at 1,625 feet and making better progress since passing out of the unusually hard formation that slowed down the drilling.

Wyoming

Steps are to be taken shortly by the New Bradford Oil Co. to further consolidate its holdings in the Mountain & Gulf Oil Co. and the Salt Creek Consolidated Oil Co., both of which operate in the Salt Creek Field and in which New Bradford now owns a majority of the stock. An offer will be made to Mountain & Gulf stockholders to exchange one share of New Bradford stock of $5 par value for six shares of Mountain & Gulf stock of $1 par value. Letters to stockholders will be in the mails within a few days. Date for exchange has not yet been set but offer probably will be made around May 1. No official announcement has been made concerning a similar offer to Salt Creek Consolidated stockholders, but it is expected to follow. New Bradford is capitalized for 1,500,000 shares of $5 par value, of which 1,064,737 shares are outstanding. It owns 2,149,000 shares of Mountain & Gulf, or approximately 58 per cent of the 3,705,200 shares outstanding, and 52 per cent of the 1,286,310 shares of Salt Creek Consolidated outstanding.

One completion in Salt Creek was reported this week, this being Wyoming Associated Oil Co.'s No. 16 in SW Section 35-40-79, completed in the first Wall Creek at 1,182 feet with an initial production of 116 bbls.

Oregon Basin Active

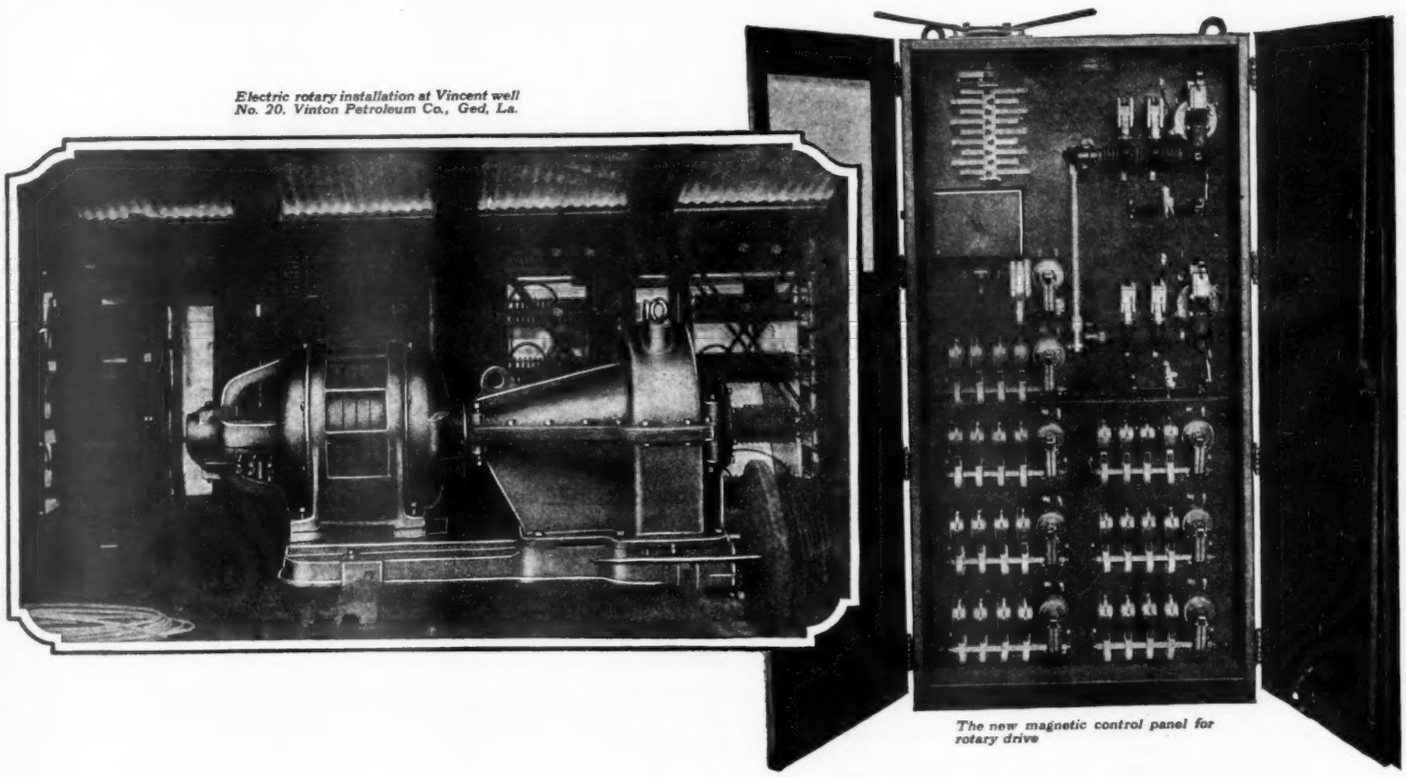
The Oregon Basin Field in Park County continues to lead the state in the number of operations and several of the wells now drilling in are commencing to flow by heads under agitation while being deepened into the sand. The Ohio Oil Co.'s No. 1 Batson, NE cor. Section 6-50-100, on the south dome, which topped the Embar sand at 3,427 feet early in February, is drilling at 3,725 feet and apparently 80 feet in the Tensleep horizon. It is flowing by heads at short intervals and the last few feet of drilling has considerably increased the quantity of oil. The same company's No. 3 Sonners, NW NE NW, Section 8-51-100, on the north dome, which topped the Embar at 3,351 feet, is still in that formation at 3,397 feet and also flowing by heads. It still has some distance to go before reaching the Tensleep where the big production is expected. The Ohio's No. 2 Wilson, NW cor. Section 4-50-100, is drilling at 3,542 feet after clearing up a fishing job and is in the top of the lime and expecting to pick up the Embar at any time. Charles E. Orchard's No. 1 Rue, SW cor. Section 28-51-100, which topped the Embar at 3,531 feet, is drilling in that horizon at 3,645 feet and is about half full of oil. It will drill another 105 feet before stopping after which it will be allowed to clean itself and will be given a test.

The Producers & Refiners' No. 1 Frisby, SW cor. NE Section 32-52-100, in the northern part of the field, is drilling at 2,327 feet in pink shale. The Continental Oil Co.'s No. 1-A State, NW cor. Section 16-51-100, is drilling at 2,280 feet, at which depth it is through the Morrison sand with hole full of water. The Ferdig-Wyoming Oil Co.'s No. 1 Hough, SE cor. Section 19-51-100, in the saddle between the north and south domes, is drilling in the Embar at 3,825 feet with the hole full of oil. It topped that formation at 3,686 feet. The Lenco Petroleum Co.'s No. 1 Rousseau, NE NW, Section 33-51-100, is drilling below 3,100 feet after casing off 8,000,000 feet of gas and a show of oil below the red beds. Same company's No. 1 Lyle, SE cor. Section 24-51-101, is drilling with rotary at 2,270 feet, and its No. 1 Robertson, NE cor. Section 1-50-101, is drilling at 1,370 feet. Cody Petroleum Co.'s No. 2 Klindt, NE NE Section 7-51-100, is drilling close to the top of the Embar at 3,274 feet. The Enalpac Oil Co.'s No. 2 Pauline, SW cor. SE Section 5-51-100, is drilling at 1,862 feet after cleaning up a fishing job, and its No. 1 Western States, NE SW, Section 30-51-100, is drilling at 2,268 feet. The Wisconsin Holding Co.'s No. 1 Rausch, NW cor. Section 9-51-100, is drilling at 2,400 feet. The Honolulu Oil Co.'s No. 1, Section 29-48-103, on the Fourbear structure, is fishing at 3,265 feet and has 1,000 feet of oil in the hole. It is in the Tensleep. The Ohio Oil Co.'s No. 1 Pulley, NW NW, Section 27-53-101, on the Shoshone anticline, is drilling at 3,685 feet in the red beds, and its No. 2 Buffalo, Section 3-47-100, Buffalo Basin, is still trying to straighten a crooked hole at 800 feet.

In the La Barge district in southwestern Wyoming, M. J. Goldberg's No. 1, SE NE, Section 16-26-115, is rigging up to resume drilling after being shut down for the winter. This is to be a deep test. It offsets the Texas Production Co.'s lease upon which No. 1 Davis showed considerable oil with water at an upper horizon. The Wyoming Producers Oil Co.'s No. 1 Section 30-28-113, is bottomed at 1,860 feet, and had a dry sand at 1,848-60 feet. Wooten Oil Co.'s No. 1, Section 26, is drilling at 1,850 feet. This is an old well being deepened. W. D. Newlon's No. 1, SW Section 12-26-113, is rigging up to drill deeper.

In Uinta County, the California Co.'s No. 1 Muddy Creek, Section 7-17-116, is drilling at 365 feet in sandy brown shale. It cut a hard water sand at 255-60 feet.

In Sweetwater County, the Custer Petroleum Co.'s No. 1 Wilson, Section 24-12-100, Hiawatha structure, which last week was reported making 4,000,000 feet of gas from a 10-foot stray sand at 1,786-96 feet, has cased off the showing and hole is now bottomed at 1,906 feet. The Producers & Refiners' No. 1, Section 26-20-104, North Baxter Basin, joint with the Marland Production Co., is delayed



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NEW YORK
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TULSA

at 730 feet repairing rig. The Prairie Oil & Gas Co.'s No. 1 Tucker, NW SE Section 18-13-99, Alkali Butte structure, which was shut down for the winter at 510 feet, has resumed and is drilling at 800 feet. The Tower Petroleum Co.'s No. 1, Section 6-14-103, Baxter Basin, is setting 12½-inch casing at 1,305 feet.

In Niobrara County, in the eastern area, the Buck Creek Oil Co.'s No. 1 Denning, SW SE NW Section 4-36-62, on the Cow Gulch structure, is spudding at 100 feet. This dome is located about 4 miles north of the Ant Hills structure where the company recently brought in a discovery. Same company's No. 1 Hattie Peterson, NW NW Section 30-37-62, Ant Hills, is drilling at 4,002 feet after shutting off oil in upper horizon.

Contracts for ditching the pipe line from the La Barge Field to Opal on the Oregon Short Line will be let around May 1. This line, which will be 38 miles long, will be of 4-inch pipe. At one time it was the intentions to make it a 6-inch line, but the engineering department reached the conclusion that on account of the low temperatures in that area, it would be better to have a 4-inch line and put the oil through more rapidly than would be possible in the larger size and thereby reduce the congealing. There will be two pumping stations, one in the field and the other about midway at Slate Creek. Two heating stations will be placed along the line and two tanks will be constructed at the railhead, one being a 55,000-bbl. and the other a 10,000-bbl. tank. No tankage in the field will be required as the pump station will be alongside the tankage of the California Petroleum Co. The line will be constructed and owned by the Midwest Refining Co, which will be the transporting company, and the contract for the purchase of the oil is held by the Utah Oil Refining Co.

Montana

The new well on the Bannatyne Dome of the Hardrock Oil Co. is having a run of bad luck. The well was to be shot, but as the casing was set near the top of the sand, it was decided to raise it as soon as the shot was ready. Accordingly after the shooter had brought in some 200 quarts of glycerin and set in on the derrick floor, the crew started to raise the casing. The strain was too much for the derrick and the rig was pulled in with all that glycerin sitting on the floor. Nothing happened, but the spectators had a bad scare. After the rig was rebuilt and made ready, another try was made to shoot, and Charlie DeWoodie, shooter for the Independent Torpedo Co., brought a load of 200 quarts to the well. As he was unloading the cans from the car, the load exploded in some way and he was blown to bits, as was Henry White, a toolie, who was helping with the shot. Harry Hulse, driller, was standing near the engine house and was badly hurt by flying fragments of the car. He was rushed to the hospital, where the doctors say he will recover.

A tank of oil used for firing the boiler was near the car. The tank was smashed to bits and the blazing oil thrown over the engine house, which took fire, but the fire was put out before it did much damage. There is a question as to where the rest of the glycerin is. It is known that a shell was hanging in the top of the hole, also that several shells were down in the well. It is supposed that DeWoodie had loaded about 120 quarters in the well and that about 80 quarts remained at the surface.

The new pipe line from the Sunburst Field has been practically completed to Great Falls and gas will be turned into the Great Falls mains this week. The line has been tested and everything is in readiness for the new fuel.

This pipe line is 111 miles long and laid with 12-inch pipe. It cost $2,000,000; it has 12 miles of 10-inch, 14 miles of 8-inch and 5 miles of 6-inch besides a large mileage of gathering lines of smaller diameters. The working pressure of the new line will be 150 pounds and the natural pressure is sufficient to deliver the gas without the need of booster stations.

Sunburst Field

The big well of the Dakota Montana Oil Co. on the Peterson lease, Sunburst Field, is now making about 1,600 bbls. daily. This well came in with a flush production of 3,000 bbls. daily last week and the present production seems to be holding at a steady rate.

The Etheridge Steel well on Section 12-34-2 made 90 bbls. in 15 minutes when first drilled in, but is now making some water with the oil. The Radigan No. 2 Hungerford has spudded in a short distance from this well.

The Hannah Porter well on the Mulroney lease on Section 8-34-1 started off at 100 bbls. from the Ellis sand, and the California Petroleum Co. has a 40-bbl. producer on Section 7-35-4. The Latah Idaho Oil Co.'s No. 1 on Section 19-32-1 turned out to be a 6,000,000-foot gasser, and the Aetna Oil Co. has a small producer on Section 9-34-2.

On the Flat Coulee structure, the Sunburst Oil & Refining Co. is still held up with cavings in the hole. An effort to blow the cavings out with the gas pressure is now being tried. The well made 22 bbls. one day last week flowing through the cave.

The Hannah Porter Syndicate secured a state lease on 320 acres in the Sunburst Field by making a bid which included a premium of $368 over the regular rental and royalty. The rental on all state land in Montana for oil purposes is 75 cents per acre.

ROCKY MOUNTAIN PRODUCTION
Runs From the Field, Week Ending April 28

Wyoming	
Salt Creek	41,430
Big Muddy	2,740
Grass Creek	2,510
Elk Basin	1,220
Greybull	20
Rock River	2,630
Lance Creek	750
LaBarge	840
Poison Spider	470
Hamilton	1,220
Oregon Basin	200
Osage	380
Lander	610
Ferris	100
Byron	50
Lost Soldier	5,210
Simpson Ridge	50
Total Wyoming	60,450
Montana	
Cat Creek	1,790
Lake Basin	150
Kevin-Sunburst	9,500
Total Montana	11,440
Colorado	
Florence	1,271
Moffat	1,485
Fort Collins	2,939
Iles Dome	359
Rangely	100
Tow Creek	446
Boulder	25
Total Colorado	6,625
New Mexico	
Rattlesnake	414
Hogback	500
Cap Rock	185
Table Mesa	344
Artesia	1,147
Total New Mexico	2,590
Total Rocky Mountain	81,105

PENNSYLVANIA REFINED OIL MARKET IMPROVES

OIL CITY, Pa., Apr. 28.—The Pennsylvania refined market during the past week showed a decided improvement and refiners of this district are now of the opinion that the upward movement is to continue.

Despite bad motoring weather throughout the week at a period when warm weather should be well under way, gasoline has shown a spurt forward. Prices are up and the demand has been improved. More gasoline is being sold by tank car than is being disposed of to the ultimate consumer indicating the belief of the jobber that prices are going higher as shown by his desire to keep his storage well filled.

Kerosene is very much improved on account of consumption and price is better. Fuel oil is not changed in condition but continues good. Cylinder stocks were again slightly improved and when a betterment for this product is noted two weeks in succession the refiners take real notice. Wax is booming and the price is the best that it has been for two years. The demand for neutrals continues good and the price is unchanged.

OKLAHOMA FIELDS

(Continued from Page 44)

SE cor. NE SW, Section 6-14-19, Muskogee Townsite Pool, was completed for 40 bbls. in sand at 514-36 feet. Towner & Witt's No. 1, Lot 7, Block 16, had sand at 502-22 feet and made 17 bbls.

Okfuskee County

Atlantic Oil Producing Co.'s No. 2 Simmer, NW cor. SW NE SE, Section 11-10-11, has been completed for 175 bbls. in sands at 1,555-75 feet and 2,056-72 feet. G. Umbrum's No. 2 Tiger, NE cor. SE SE, Section 35-11-11, has been completed in the Deaner sand at 2,510-40 feet for 6,000,000 feet of gas.

Okmulgee County

De Witt-Baldridge Oil Co. has the rig on the ground for No. 1 Cooper, SW cor. SE SE, Section 35-16-13. Wheeler & Kramer and others' No. 3 Morgan, CEL NE NW, Section 23-13-11, is spudding. Florine Drilling Co.'s No. 1 Grayson, NE cor. Section 11-11-12, is spudding. J. E. Wallace has the rig up for No. 9 Colbert, NE cor. NW SE, Section 14-14-14. M. S. Mussellem's No. 16 Flint, CWL NE SW, Section 26-14-14, is rigging G. H. Lowerre and others' No. 1 Eubanks, SW cor. NE NE, Section 17-13-14, is being deepened, now drilling at 1,400 feet.

X. K. Stout and others' No. 2 Phillips, CNL NW NW, Section 29-16-14, came in for 6 bbls. in Dutcher sand at 1,750-57 feet. Lavery & Farrell's No. 1 Carter, NW cor. SE SE, Section 10-15-14, has been abandoned at 1,700 feet.

Pontotoc County

LaSalle Oil Co. has the rig up for No. 4 Copeland, C E half SW, Section 28-5-5. Roxana Petroleum Corp. made location for No. 1 Oliver, SW cor. SE NW, Section 32-5-7. O. K. Portland Cement Co. moved the rig out for No. 1 Staritt, NW cor. NE SE, Section 23-4-7.

Indian Territory Illuminating Oil Co.'s No. 1 Taylor, NW cor. SW SE, Section 29-5-5, is pumping 105 bbls. from Hunton lime and Viola after plugging back to 2,615 feet from 2,638 feet.

C. B. Shaffer's No. 1-A Gilcrease, NW cor. NE, Section 36-5-7, is making 99 bbls. on the pump from 2,261-83 feet.

Pottawatomie County

Pierce Oil Corp. has dug the cellar for No. 3 Davis, SW cor. NE, Section 25-7-3, Pearson Pool. Independent Oil & Gas Co. and Darby Petroleum Co.'s rig is up for No. 2 S. Freid, SE cor. NE NE, Section 23-7-4, St. Louis Pool. Superior Oil Corp. moved the rig out for No. 2 Cloude, SW cor. NW NW, Section 24-7-4. Westheimer & Daube's rig is on the ground for No. 2 McKay, NW cor. SW NW, Section 24-7-4.

Central National Oil Co.'s No. 1 Tony, SW cor. Section 28-10-4, is dry and abandoned at 4,323 feet.

Seminole County

Magnolia Petroleum Co.'s No. 9 Sparks, NW cor. SW, Section 11-9-5, Earlsboro Pool, is rigging up to drill to the Earlsboro sand. Continental Oil Co. has the rig up for No. 1 Mummah Cosar, SE cor. SW, Section 25-8-6, Little River Pool. The rig is being built for No. 6 Cosar, NE cor. NW, Section 36-8-6. Blackwell Oil & Gas Co. is building the rig for No. 1 Bennett, SW cor. NW SE, Section 11-7-6.

Barnsdall Oil Co.'s No. 4 Sango, SW cor. SE NW, Section 1-9-5, Earlsboro Pool, is making 30 bbls. on the pump after drilling to 4,476 feet in Wilcox sand and then plugging back to 3,586 feet. No. 6 Sango, NW cor. SW NW, Section 1-9-5, made 2,061 bbls. initial from Wilcox sand at 4,562-71 feet. Carter Oil Co.'s No. 5 Davis, NW cor. SE NE, Section 4-9-6, has been completed for 500 bbls. in Wilcox sand at 4,423-31 feet. T. Atkins' No. 1 Grayson, SE cor. SW, Section 9-9-8, is dry and abandoned at 3,871 feet, having lost the hole. Magnolia Petroleum Co.'s No. 5 Rhoades, SW cor. NE SW, Section 12-8-6, Bowlegs Pool, made 360 bbls. on the swab from Wilcox sand at 4,316-23 feet. No. 2 Cruse, SW cor. SE SE, Section 2-7-6, Little River Pool, produced 950 bbls. from Wilcox sand at 4,141-51 feet.

Gypsy Oil Co.'s No. 1 Denmark, NW cor. SW SE, Section 11-7-6, had Wilcox sand at 4,297-4,300 feet and made 4,016 bbls. No. 1 Renton, NW cor. NE NE, Section 11-7-6, flowed 1,207 bbls. from Wilcox sand at 4,232-43 feet. No. 1 Canard, SE cor. NE NE, Section 22-7-6, was completed for 3,562 bbls. in Wilcox sand at 4,200-05 feet. Magnolia Petroleum Co.'s No. 1 Vierson, SE cor. NW, Section 5-6-7, has been abandoned at 4,535 feet. T. B. Slick's No. 1 Barrett, NE cor. SE NW, Section 13-5-6, drilled to the Wilcox sand at 3,998 feet and was abandoned. Mid-Continent Petroleum Corp.'s No. 4 Fleet, NE cor. SE SE, Section 7-5-8, Allen Pool, made 255 bbls. from sands at 2,516-48 and 2,561-64 feet. Also 2,720-34 feet. The Texas Company's No. 3 Hyde, SE cor. NE SE, Section 7-5-8, has been shut in for 25,000,000 feet of gas in sand at 2,602-17 feet. Louisiana Oil Refining Corp.'s No. 4 Reed, NW cor. NE NE, Section 18-5-8, flowed 450 bbls. from sand at 2,555-2,613 feet.

Stephens County

Faucett & Holmes' No. 1 Johnson, NW cor. SE SW, Section 18-1s-8w, an old well, is rigging up to deepen from 1,850 feet. Magnolia Petroleum Corp. is building the rig for No. 6 M. Green, NE cor. NW, Section 13-1s-4w. Humble Oil & Refining Co. is putting up the rig for No. 5 Peddycort, NE cor. SE NE, Section 25-1s-4w. C. R. Smith has the rig up for No. 1 McCollom, NW cor. NE SE, Section 25-1s-4w. Pace and others' rig is under construction for No. 2 Wilson, NE cor. SE NE, Section 12-2s-8w. George Pace has the rig up for No. 1 Massey, NE cor. SE, Section 14-2s-8w. Petroleum Producers Co.'s No. 2 Brown, SW cor. NW, Section 7-2s-7w, is rigging up rotary tools.

Humble Oil & Refining Co.'s No. 2 Perkins, SW cor. SE, Section 12-1s-4w, has been shut in for 60,000,000 feet of gas in sand at 2,740 feet. Amerada Petroleum Corp.'s No. 1 Hanson, NE cor. SE SW, Section 12-1s-4w, was completed for 36,000,000 feet of gas in sands at 2,508-3,028 feet. Skelly Oil Co.'s No. 5 Krebbs, SW cor. NW SE, Section 13-1s-4w, is making 22,000,000 feet of gas from sands at 2,325-3,209 feet. Magnolia Petrolem Co.'s No. 4 M. Green, SW cor. SE NW, Section 13-1s-4w, was completed for 2,148 bbls. in sands at 2,707-2,859 feet.

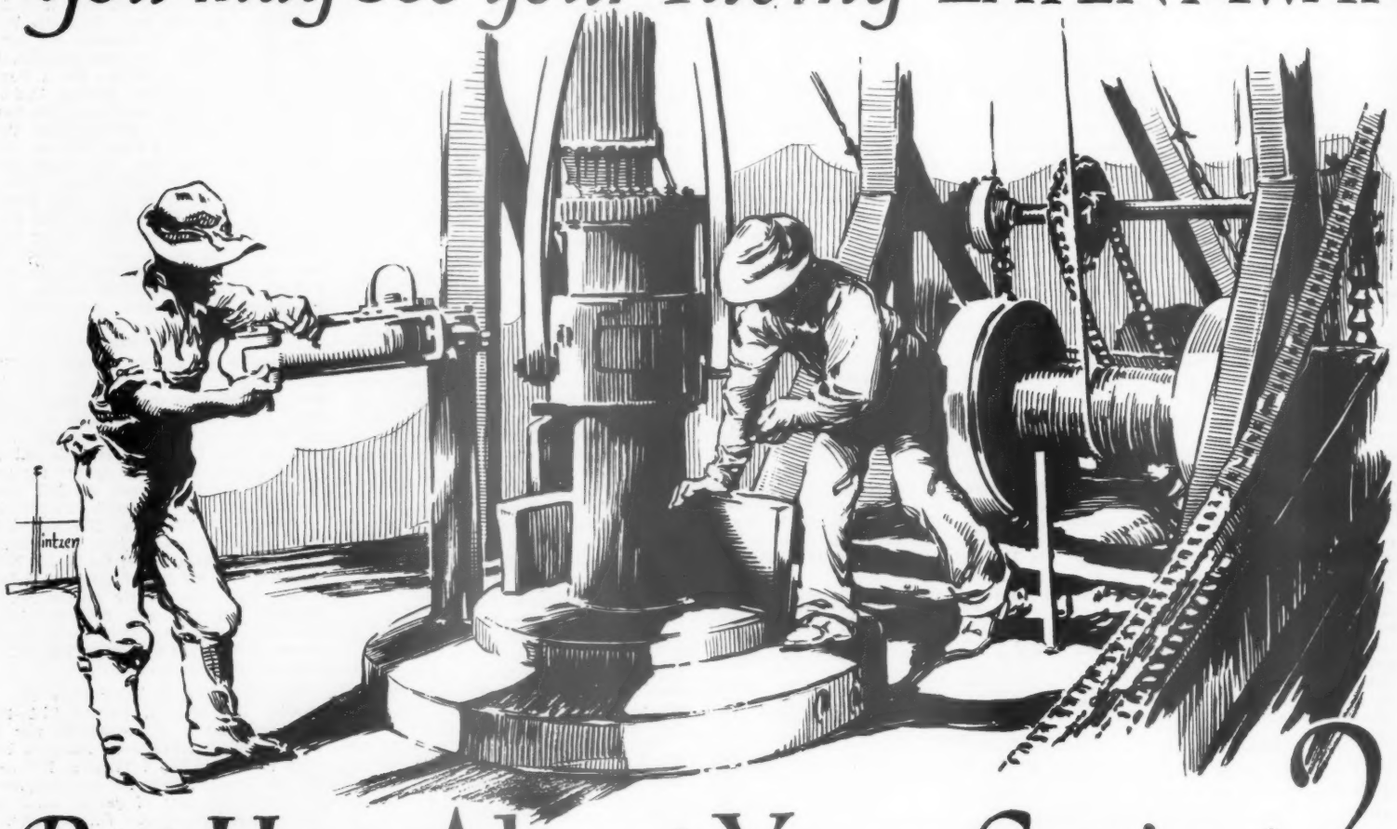
Wagoner County

C. R. Cane's No. 3 Cane, NW cor. NE SE, Section 35-17-17, was completed for 7,500,000 feet of gas in sand at 879-84 feet.

Seminole Field Production
Friday, April 27
Seminole Pool

Company, farm—	Location	Wells	Prod.
Amerada:			
Fixico	23- 9-6	4	1,070
Killingsworth	23- 9-6	4	467
Rentie	23- 9-6	3	664
Atlantic:			
N. Cudjo	35- 9-6	3	430
Barnsdall:			
Carter	24- 9-6	8	1,033
Henry	14- 9-6	2	500
Jones	34- 9-6	4	930
Carter Oil:			
B. Carter	24- 9-6	2	210
F. Carter	23- 9-6	3	70
J. Carter	24- 9-6	3	30
Creamer	34- 9-6	2	25
R. Cudjo	35- 9-6	4	175
W. Cudjo	34- 9-6	2	15
Gilliland	27- 9-6	1	360
Grisso	33- 9-6	5	575
M. Grisso	15- 9-6	1	260
G. F. Killings	14- 9-6	4	465
M. E. Killings	23- 9-6	12	6,000
Knapp	13- 9-6	3	32
Lukes	27- 9-6	6	1,265
Pounder	34- 9-6	2	57
Simpson	35- 9-6	2	35
Strothers	34- 9-6	4	400
Vierson	23- 9-6	2	325
Empire:			
Gross	25- 9-6	3	72
Wilson	34- 9-6	2	208
Gypsy:			
Butler	35- 9-6	4	1,192
Carter	24- 9-6	8	547
Cudjo	34- 9-6	5	550
Fixico	26- 9-6	7	185
Harjo	25- 9-6	3	957
Wolfe	26- 9-6	6	252
Independent:			
P. Fixico	23- 9-6	3	380
Harjo	25- 9-6	2	220
Butler	35- 9-6	3	965
Independent-Garland:			
T. Fixico	26- 9-6	3	675
Jones	26- 9-6	4	400
I. T. I. O.:			
Allen	25- 9-6	2	323
Bowlegs	26- 9-6	12	2,734
Goodin	33- 9-6	4	365
Harjo	33- 9-6	3	92
James	24- 9-6	2	278
Reed	24- 9-6	1	9

You may see your Tubing EATEN AWAY



But How About Your Casing?

EVERY corroded length of tubing is a bitter reminder that your casing may be in the same sorrowful condition—unless, of course, you had originally taken the precaution to use wrought iron pipe. But if some inferior material were used, sooner or later you may pay the piper—sooner or later water may trickle through corroded casing walls and cause more trouble. Besides, fishing jobs just thrive on such a state of affairs.

The little extra you pay for wrought iron is quickly counterbalanced by savings in other directions. *Reading* tubing and casing in particular have features that pay dividends on your investment. Reading pipe is the only wrought iron pipe double welded. It is insurance against leaky joints, splits, galled threads and crystallization.

READING IRON COMPANY

Reading, Pennsylvania

Houston Tulsa Fort Worth Los Angeles San Francisco

READING PIPE

GENUINE WROUGHT IRON

Kingwood:			
Johnson	22- 9-6	3	1,263
Magnolia:			
Boren	2- 8-6	1	20
Franks	25- 9-6	4	740
Mid-Continent:			
Rentie	14- 9-6	9	725
Tayeche	24- 9-6	7	275
Mid-Kansas:			
Johnson	25- 9-6	1	15
Phillips:			
Strothers	27- 9-6	2	170
Prairie:			
Gross	25- 9-6	5	50
Mason	36- 9-6	1	75
Spencer	13- 9-6	1	13
Strothers	27- 9-6	8	820
Pure Oil:			
Strothers	26- 9-6	17	6,321
B. Strothers	26- 9-6	5	1,910
C. Strothers	34- 9-6	1	436
Rexana:			
Harber	22- 9-6	2	266
Lasley	22- 9-6	2	28
Sinclair:			
Carter	13- 9-6	2	25
Cudjo "A"	35- 9-6	6	1,020
Cudjo "B"	35- 9-6	4	1,125
Dicey	22- 9-6	2	1,255
Fixico	23- 9-6	4	900
Slick:			
Cudjo	35- 9-6	3	675
Franks	35- 9-6	7	1,690
Giblet	35- 9-6	3	1,570
Tiger	1- 8-6	1	61
Superior:			
Cudjo	35- 9-6	4	585
Texas:			
Mayhue	14- 9-6	1	300
Strothers	2- 9-6	1	135
Tidal:			
Carter	24- 9-6	4	667
Fixico	26- 9-6	6	1,031
Harjo	25- 9-6	3	735
T. Harjo	23- 9-6	6	140
Mahardy	24- 9-6	2	28
Turman:			
Cudjo	35- 9-6	4	1,060
Grisso	35- 9-6	1	275
Jones	34- 9-6	4	1,205
Total		304	53,377

Earlsboro

Amerada:			
Anderson	15- 9-5	2	1,110
Cowden	4- 9-5	8	1,865
Rodgers	3- 9-5	2	1,145
Atlantic-Sinclair:			
Foreman	18- 9-5	1	175
Barnsdall:			
Brown	10- 9-5	4	2,035
Bruner, F.	2- 9-5	2	844
Bruner, N.	10- 9-5	4	1,385
Cudjo, C.	14- 9-5	1	26
Davis, D.	11- 9-5	3	330
Davis, J.	11- 9-5	4	950
Davis, M.	11- 9-5	3	100
Gibson	9- 9-5	8	3,118
Hearn	15- 9-5	1	4
Ingram	1- 9-5	8	3,158
Pack	10- 9-5	4	245
Peter	10- 9-5	4	226
Sango	1- 9-5	5	7,805
Sebolka	15- 9-5	1	140
Sullivan, H.	11- 9-5	1	....
Sullivan, Harjo	10- 9-5	2	54
Wasutke	12- 9-5	4	2,114
Carter:			
Davis	13- 9-5	2	535
Payne	12- 9-5	3	20
Sango	1- 9-5	4	1,460
Continental:			
Kays	2- 9-5	2	50
Spencer	12- 9-5	4	1,370
Crosbie:			
Bryant	9- 9-5	2	....
Empire:			
Barker	12- 9-5	1	830
Edmundson	3- 9-5	3	808
Gypsy:			
Bora	16- 9-5	1	50
Bruner	10- 9-5	4	2,620
Carter	11- 9-5	9	3,575
Earl	16- 9-5	1	17
Hunick	5- 9-5	1	2,295
Noble	12- 9-5	4	3,102
Peter	10- 9-5	3	227
Sango	1- 9-5	5	4,032
State	16- 9-5	4	1,070
Independent:			
Bruner	10- 9-5	4	395
Sullivan	10- 9-5	4	138
Knapp	8- 9-5	5	2,062
Gaines	11- 9-5	4	1,005
Inter-Ocean:			
Payne	12- 9-5	1	....
Magnolia:			
Bryant	9- 9-5	6	1,091
Cowden	4- 9-5	4	75
Dixon	12- 9-5	1	....
Edmundson	3- 9-5	3	25
Holmsley	11- 9-5	8	2,069
Hyde	13- 9-5	1	1,721
Ingram	10- 9-5	1	25
Lena	19- 9-5	3	75
Seay	12- 9-5	9	4,079
Simpson	10- 9-5	3	265
Sparks	11- 9-5	7	862
Sullivan	12- 9-5	3	70
Mid-Continent:			
McCumber	9- 9-5	7	385
Mid-Kansas:			
Anderson	14- 9-5	3	145
Phillips:			
Dunnaway	14- 9-5	1	30
Graham	9- 9-5	3	120
Prairie:			
Baker	24- 9-5	1	50
Davis	13- 9-5	5	3,715
Graham, C.	2- 9-5	2	30
Graham, O.	10- 9-5	4	1,475
Stidham	11- 9-5	13	4,315
Roxana:			
Bayliss	17- 9-5	1	12
Spencer	12- 9-5	2	1,417
Shaffer:			
Clark	1- 9-5	5	756
Sinclair:			
Foreman	18- 9-5	1	15
Hollins	12- 9-5	2	20
Sango	2- 9-5	3	4,655
Skelly-Atlantic:			
Sherry	6- 9-6	1	....
Skelly:			
Spencer	12- 9-5	1	673
Walker	2- 9-5	1	937
Texas:			
Anderson	3- 9-5	7	885
Brown	10- 9-5	8	1,960
Rodgers	5- 9-5	4	3,760
Wilmont	10- 9-5	7	1,036
Tidal:			
Watkins	9- 9-5	8	3,120
Twin State:			
Barker	12- 9-5	3	100
Hearn	2- 9-5	4	1,825
Total Earlsboro		287	94,300

Bowlegs Pool

Amerada:			
Roscoe	15- 8-6	8	1,765
Atlantic:			
Baker	10- 8-6	4	410
Fleet	23- 8-6	4	455
Grayson	13- 8-6	3	510
A. Jones	16- 8-6	3	90
C. Jones	9- 8-6	2	165
Barnsdall:			
McNac	28- 8-6	1	26
Murrow	11- 8-6	4	747
Carter Oil:			
Bowlegs	15- 8-6	4	1,390
Burden	23- 8-6	2	255
Harjoche	14- 8-6	6	560
Hilly	23- 8-6	3	845
Jones	11- 8-6	4	1,275
McGeisey	21- 8-6	1	25
S. Mecco	....	1	150
Melissa	9- 8-6	1	125
Walker	15- 8-6	4	560
Wise	23- 8-6	12	2,850
Empire:			
Lacy	14- 8-6	6	387
Wise	23- 8-6	2	345
Gypsy:			
Bowlegs	22- 8-6	1	185
Bradley	9- 8-6	1	2
Cumsey	10- 8-6	4	1,302
Doser	7- 8-6	1	100
Grayson	13- 8-6	4	820
Harjoche	10- 8-6	2	267
Jones	11- 8-6	1	265
Walker	15- 8-6	8	1,695
Wise	23- 8-6	3	237
I. T. I. O.:			
Barnett	24- 8-6	2	296
Barnett "B"	23- 8-6	1	129
Billington	22- 8-6	5	882
Bowlegs	22- 8-6	11	1,792
Davis	13- 8-6	4	925
Fay	13- 8-6	9	1,991
Goforth	15- 8-6	12	1,674
Livingston	15- 8-6	10	3,545
Lizzie	15- 8-6	2	339
Walker	15- 8-6	8	898
Wilmott	15- 8-6	4	360
Work	24- 8-6	1	118
Youngblood	24- 8-6	2	59
Magnolia:			
Davis	13- 8-6	3	515
M. Davis	13- 8-6	1	238
Hammond	10- 8-6	4	1,038
Rhodes	12- 8-6	5	4,200
Van Buskirk	9- 8-6	1	299
McCulloch:			
Bowlegs	22- 8-6	2	420
Mid-Continent:			
Baker	10- 8-6	4	1,332
Bowlegs	22- 8-6	1	40
Smith	12- 8-6	6	500
Minnehoma:			
Bowlegs	15- 8-6	4	276
Prairie:			
Gahagan	23- 8-6	4	380
Harber	10- 8-6	8	2,710
Jones	11- 8-6	4	405
Templeton	12- 8-6	6	2,830
Whitney	23- 8-6	4	520
Pure Oil:			
Reed	14- 8-6	15	2,671
Strother "D" 11 &	14- 8-6	4	394
Strother "F"	10- 8-6	4	1,972
Roxana:			
Taylor	16- 8-6	5	479
Shaffer:			
Lacy	14- 8-6	3	302
Sinclair:			
Bowlegs	22- 8-6	1	40
Cumsey	10- 8-6	4	3,581
Ellen	11- 8-6	7	1,145
Harjo	14- 8-6	3	590
Jones	9- 8-6	6	2,945
Taylor	10- 8-6	4	2,219
W. Taylor	10- 8-6	1	894
Walker	22- 8-6	4	977
Texas:			
Reed	14- 8-6	11	2,365
Tidal:			
Grayson	13- 8-6	4	655
Harjoche	10- 8-6	6	1,215
Twin States:			
Jones	11- 8-6	3	80
Total		312	71,403

Little River Pool

Amerada:			
Nitey	2- 7-6	3	2,320
Amerada et al:			
Fore	35- 8-6	2	700
Barnsdall:			
Hotulke	22- 7-6	1	45
Blackwell:			
Nitey	35- 8-6	6	2,103
Carter:			
Fish	36- 8-6	6	1,435
Jackson	11- 7-6	1	710
Continental:			
Cosar	36- 8-6	4	1,800
Gypsy:			
Brown	33- 8-6	1	50
Campbell	22- 7-6	2	252
Conrad	22- 7-6	1	55
Denmark	11- 7-6	1	1,377
Nungee	1- 7-6	1	20
Pottey	35- 8-6	3	370
Renton	11- 7-6	1	1,060
Independent:			
Harris	23- 7-6	1	55
Independent et al:			
Davis	2- 7-6	3	2,845
Indian Territory:			
Campbell	1- 7-6	1	93
Dungan	35- 8-6	3	2,233
House, M. A.	1- 7-6	1	221
House, W. E. "A"	1- 7-6	1	48
House, W. E. "B"	2- 7-6	4	2,459
Jackson	1- 7-6	3	1,909
Hull	26- 8-6	1	76
McCulia	1- 7-6	3	810
Nitey	2- 7-6	7	1,098
Phoebe, "A"	36- 8-6	3	759
Phoebe, "B"	36- 8-6	4	348
Reed	1- 7-6	1	77
Soketheche	1- 7-6	4	893
Magnolia:			
Cruse	2- 7-6	2	1,360
Dixon	31- 8-7	1	....
Pottey	35- 8-6	3	713
W. B. Pine:			
Hoyeche	26- 8-6	1	975
Mid-Continent:			
Smith	5- 7-7	1	30
Wadsworth	36- 8-6	7	....
Bruner	....	1	....
Pine & Phillips:			
Pottey	....	2	1,066
Prairie:			
Dungan	35- 8-6	2	120
House	2- 7-6	4	1,650
Chilcoat	25- 8-6	1	830
Shaffer:			
Narcome	36- 8-6	1	90
Sinclair:			
Cosar	36- 8-6	2	1,285
Snowden et al:			
Tiger	13- 7-6	1	2,050
Superior:			
Soketche	1- 7-6	1	13
Texas:			
Coker	1- 7-6	3	585
Hotulke	....	1	105
Tidal:			
House	1- 7-6	3	810
Johnson	1- 7-6	1	75
Total		112	37,978

Maud

Barnsdall:			
Fife	14- 8-5	1	....
Indian Territory:			
Slate	16- 8-5	1	....
Total		2	....

Searight Pool

Amerada:			
Johnson	4- 9-6	1	65
Strothers	3- 9-6	2	837
Carter:			
Davis	4- 9-6	6	955
Frazier	3- 9-6	6	2,950
Johnson	3- 9-6	1	3
Kiker	3- 9-6	1	25
Mandler	2- 9-6	2	25
Scott	26-10-6	1	20
Gypsy:			
Cudjo	4- 9-6	3	637
Mid-Continent:			
Grayson	34-10-6	6	55
Davis	33-10-6	4	960
Pine:			
Lula	4- 9-6	1	27
Prairie:			
Cannon	33-10-6	1	....
J. Carter	10- 9-6	1	15
Houch	33-10-6	1	4
Kincaid	33-10-6	5	40
Varnum	5- 9-6	1	....
Wimer	22-10-6	1	15
Pure:			
Aldridge	3- 9-6	4	3,061
Roxana:			
Strothers	3- 9-6	4	1,221
Sinclair:			
Polly	3- 9-6	4	1,900
Superior:			
Varnum	4- 9-6	1	....
Texas:			
Fleet	4- 9-6	1	37
Twin States:			
Varnum	4- 9-6	2	415
Wilcox:			
Chupco	4- 9-6	8	1,671
Total		71	14,938

Totals

Field—	Wells	Prod.
Little River	112	37,978
Maud	2	....
Bowlegs	312	71,403
Earlsboro	287	94,300
Seminole	304	53,377
Searight	68	14,938
Totals	1,085	271,996

LA ROSA NO. 444 EPIC OF OIL DRILLER

(Continued from Page 33)

the oil which collected was pumped by mud-hog pumps into storage tanks. This scheme was tried at No. 444, but the force of the current from the geyser was found to be so strong that the attempt was abandoned almost before it was started.

"Company officials next moved a pile-driver to the location. The idea was to drag it over the geyser and try to drop a larger pipe over the casing in the belief that if this attempt succeeded, the flow would be confined and there would be a better chance of choking it off. They were still trying to accomplish this when on December 26, 1927, the writer paid his first visit to the location. At that time the pile-driver had been dragged to within about 50 feet of the geyser and behind the pile-driver was anchored a scow upon which were the boilers furnishing power for the operations. This scow was supposed to be at such a distance from the geyser that there was no danger of igniting the gas from the blowout; later this idea was found to be erroneous. On that date, although the gas pressure was said to be much less than at the time of the blowout, it was so great that it created a current against which it was very difficult to hold the pile-driver. At that time this machine was anchored some 50 feet from the center of the geyser by one 2-ton and six 1,250-pound anchors. The crew stated that while they had been able to drag the pile-driver over the geyser on several occasions, they had never been able to hold it there for any length of time. The geyser at this time was about 10 feet high. It was flowing by heads, breaking out about twice a minute, although the gas, oil and sand rushed out continuously for from 10 to 15 minutes at times.

"About the first of the year the officials decided to attempt another scheme, although in the meantime continuing their efforts to use the pile-driver. They decided to drill an offset well about 100 yards from the site of No. 444, to penetrate to the same sand from which that well was blowing off, and to pump in a mixture of heavy mud and oxide of iron in the hope that this would seal up the sand to such an exten that it would decrease the flow from No. 444 and possibly choke it off entirely.

"The writer paid a second visit to this location on January 22, 1928. The gas pressure had by this time perceptibly decreased and the geyser was only about 2 feet high. The escaping gas had in the meantime blown out a crater in the lake bed which appeared to be about 40 feet wide, as the geyser spouted out over a circle of about that diameter. Measurements taken on several occasions when the crew of the pile-driver had been able to drag their machine over the geyser indicated that the crater was at least 157 feet deep.

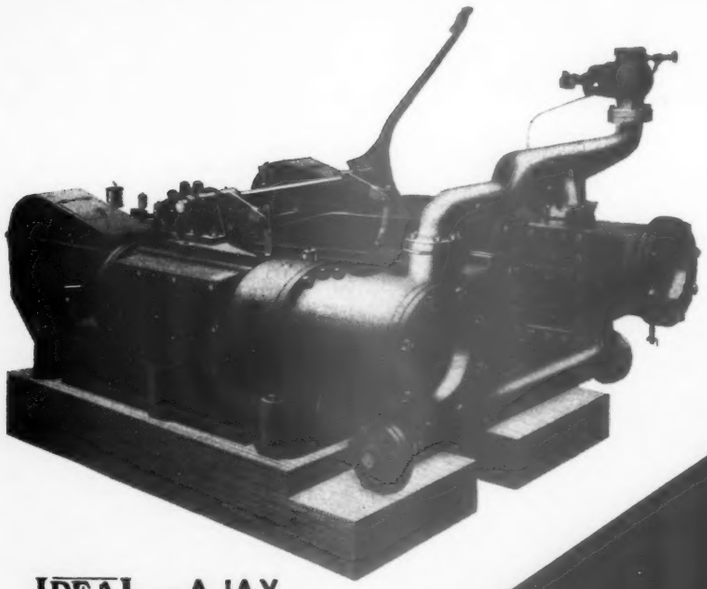
"On the morning of January 23, gas escaping from the geyser caught fire, swept over the pile-driver and drove the Venezuelan crew overboard. The three American members of the crew were at the time on the scow and stuck to their posts. Attempts were made immediately to smother out the flames by discharging large tanks of foamite over the blazing surface, but the current which was still strong scattered this fluid before it had a chance to operate. Steam pumps were then brought up and clouds of steam sprayed over the crater in a second effort to smother the flames, but this experiment was also a failure.

Finally Subdued

"Several days later an attempt was made to blow it out by discharging eight sticks of dynamite in the center of the crater, but this had no effect. Some 48 sticks were next set off and the officials for an instant believed that the fire had been blown out, but only for an instant, for again the blue flickering flames appeared all over the surface of the crater. A third and more serious effort was then made. This time two 50-foot 2 by 4's were mailed together at their centers at right angles to each other, the idea being that this X-shaped structure would, if its center were suspended over the center of the crater, cover the whole blazing surface of the lake. Scows were moved up on opposite sides of the crater and a heavy wire cable stretched between them. The X-shaped scaffold was suspended on this cable, charges of dynamite were attached to all four ends of the center, the scaffold was slid to the desired position and all charges were detonated at the same time. The fire was snuffed out.

"In the meantime the offset well was being drilled, and the drillers were at the time No. 444 caught fire within a few hundred feet of the depth at which that well blew out. Shortly afterward they were alarmed at signs which pointed to a blowout on their well. At any time this would be a disaster to be avoided by every possible means, but with a blazing fire within a hundred yards there was every possibility that unless this threatened blowout were checked there would be a fire which would most certainly destroy all property and most probably cost the lives of all crews, and volunteer assistants worked all one day and until 4 o'clock the next morning before they were certain that there was no danger to be apprehended.

"About the first of February the gas sand was tapped by the drill of the offset well. Immediately some 5,000 bbls. of heavy mud were pumped into the new hole, and forced into the sand stratum. Within a short time the sand was sealed and at the present time well No. 444 is about subdued as no oil is flowing and the gas pressure is so weak that scarcely a bubble can be noticed on the surface of the crater."



IDEAL – AJAX
12x12
Twin Cylinder
Drilling Engine

IDE

ROTARY E

TH
NATIONA
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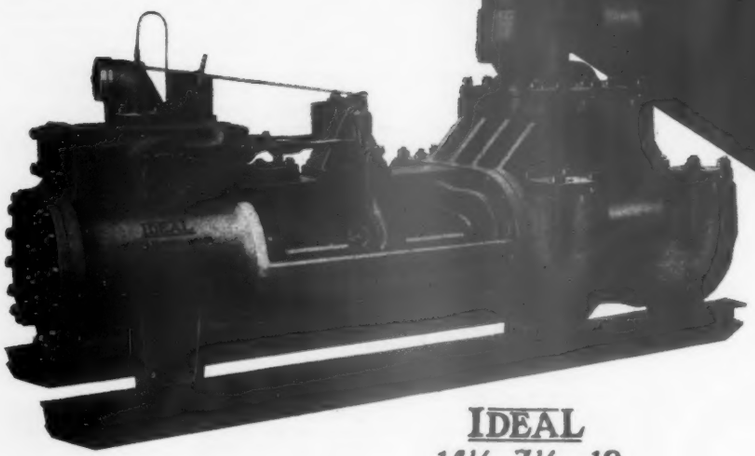
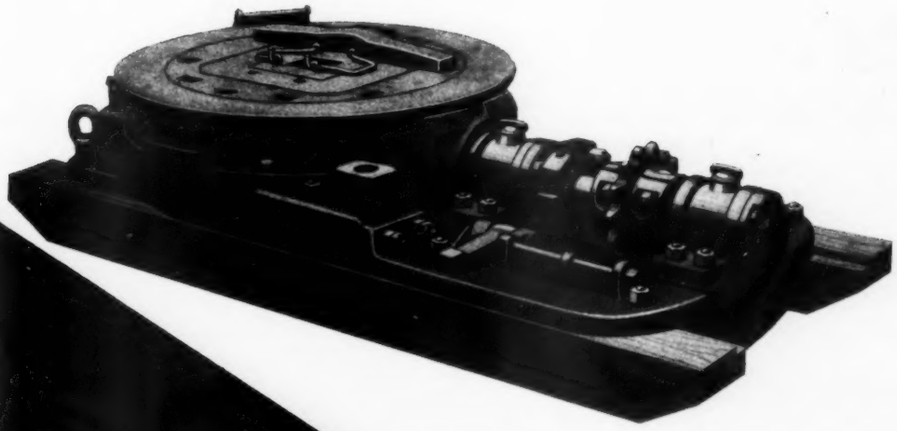


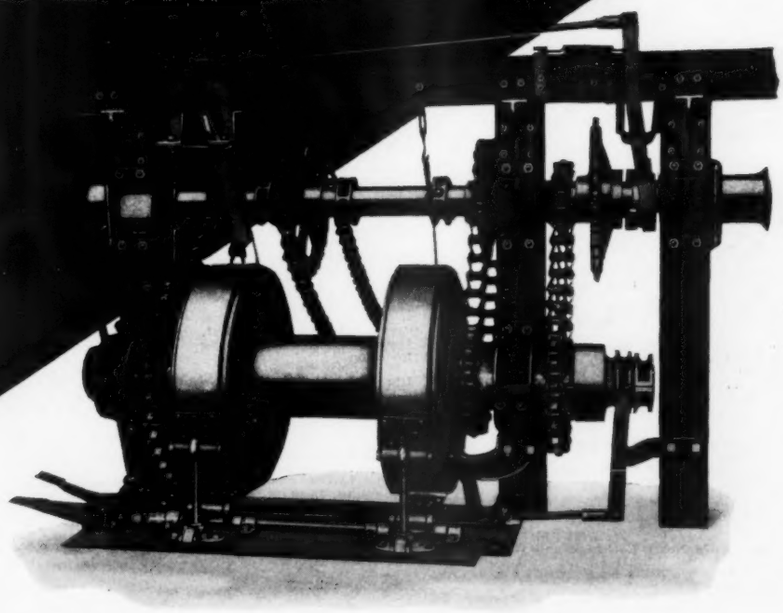
IDEAL
14½x7½x18
Slush Pump

EAL



IDEAL
No. 12-2½" Rotary

EQUIPMENT



IDEAL
No. 7½-RB Roller Bearing
Draw Works

THE
IAL SUPPLY
OMPANIES

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 40)

World Oil Co.'s No. 1 Schneeman-B. Sec. 50, Blk. BB, G.C.&S.F. Sur., elev. 2,663 ft., contract depth 2,750 ft. — Top salt 1,070 ft.; hole full salt water 2,210-15 ft.; drlg. 2,910 ft. in sandy lime and shale; will drill to 3,200 ft.

M. B. Wyrick et al's No. 1 H. M. Halff, Sec. 68, Blk. 1, H.&G.N. Sur. — Shut down 1,400 ft.
Zoch's No. 1 University, SW cor. Sec. 16, Blk. 14 — Rigging.
Young & Donnelly's No. 1 J. M. Shannon, C Sec. 11, Blk. 9, D.&S.E. Sur. — 7,000,000 ft. gas at 1,663 ft.; shut down 1,775 ft.

Young & Donnelly's No. 2 J. M. Shannon, Sec. 18, Blk. 10, G.C.&S.F.R.R. Sur. — Spudded and shut down.
Young & Donnelly's No. 1 J. S. Todd, Sec. 26, Blk. WX, G.C.&S.F. Sur. — Fishing 600 ft.

CULBERSON COUNTY

Deep Rock Oil Co.'s No. 2 Kloh-Rumsey, Sec. 21, Blk. —
Hickey & Stiver's No. 1 C. O. Finley — Shut down 1,066 ft. for 6-in. casing.

Scott & Dittman's No. 1 Miller, SW cor. NW NE Sec. 1, School Blk. 97 — Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; shut down for casing 1,767 ft.

ECTOR COUNTY

Pennsylvania Drlg Co.'s No. 1 W. E. Connell, C NE Sec. 7, Blk. B-16 — Location.
The Texas Company's No. 6 Cosden-Connell, NW cor. NW Sec. 10, Blk. B-16, PSL — Underream'ng 12-in. casing 545 ft.; total depth 650 ft.

EL PASO COUNTY

Sillix et al's No. 1 W. D. Malone, Sec. 46, James M. Day Sur. — Location.

FISHER COUNTY

Cranfill & Reynolds' No. 2 Young, Sec. 28, Blk. 1, B.B. & C. Sur. — Rig.
R. W. Raney's No. 2 Maberry, Sec. 56, Blk. 1, T.&P. Sur. — Shut down 3,160 ft.
Sinclair Oil & Gas Co.'s No. 1 F. Steele, NW NE NE Sec. 72, Blk. 1, H.&T.C.R.R. Sur. — Top lime 1,635 ft.; drlg. 2,460 ft.

FOARD COUNTY

Marland Oil Co.'s No. 1 J. H. Minnick, C NE Sec. 74, Blk. B, H.&T.C. Sur. — Drlg. 1,815 ft.

GARZA COUNTY

Latimer & Waggoner's No. 1 W. L. Cross, SW cor. Sec. 18, Blk. 4, K. Aycock Sur. — Location.
Marland Oil Co.'s No. 1 B. F. Pippin, C NW Sec. 1,210, W. C. Young Sur. (3,750-ft. test) — Top salt 960 ft.; drlg. 1,750 ft.

GLASSCOCK COUNTY

Roxana Pet. Corp.'s No. 1 Boston, Sec. 30, Blk. 34, Twp. 4-S, T.&P. Sur. — Moving in material.
Texon & Marland's No. 1 Settles — Set 10-in. 1,420 ft.; top lime 2,015 ft.; hole full sulphur water 2,710-50 ft.; 5-in. casing 3,210 ft.; shut down 3,504 ft. to plug back; equipping to pump.

Josey & Finchbaugh's No. 1 S. R. Cox, 1,320 ft. W of NE cor. and located on the N line of Sec. 29, Blk. 33, Twp. 4s, T.R.R.R. Sur. — Location.
Meriwether Oil Co.'s No. 1 L. S. McDowell, CNL Sec. 34, Blk. 34, T-2-S, T.P.R.R. Sur. — Top salt 995 ft.; total depth 1,200 ft.; rebuilding rig.

R. R. Penn's No. 1 Hughes & Johnson — Location.
World Oil Co.'s No. 1 L. S. McDowell, SW SE SW Sec. 32, Blk. 34, T-2-S, elev. 2,523 ft., contract depth 3,200 ft. — Rigging up.

HOWARD COUNTY

F.H.E. Oil Co.'s No. 1 Dora Roberts, SW NE Sec. 136, Blk. 29, W.&N.W.R.R. Sur. — Setting 8-in. casing 1,940 ft.
F. H. E. Oil Co.'s No. 2 Dora Roberts, Lease E, Sec. 136, Blk. 29, W.&N.W. Sur. (100 ft. N of No. 1-E) — Location.
F. H. E. Oil Co.'s No. 4 Dora Roberts-A, 1,170 ft. S and 1,710 ft. E and 1,710 ft. W NE cor. Sec. 156, Blk. 29, W.&N.W. Sur. — Drlg. 1,683 ft.
Godley Oil Co.'s No. 3 A. J. Hooks, Sec. 140, Blk. 29, W.&N.W. Sur. — Location.
Godley Oil Co.'s No. 4 A. J. Hooks, Sec. 140, Blk. 29, W.&N.W. Sur. — Location.
Green O. & R. Co.'s No. 1 H. R. Clay, SE cor. Sec. 127, Blk 29, W.&N.W. Sur. — Shut down for casing 945 ft.
Henshaw et al's No. 1 W. R. Settles, SW SE SW Sec. 135, Blk. 29 — Top pay 2,349-60 ft.; bit in hole; shut down 2,519 ft. for orders.

Lockhart et al's No. 2 Dora Roberts, Sec. 157, Blk. 29, W.&N.W. Sur. — Material on ground.
Magnolia Pet. Co.'s No. 7 Dora Roberts, SW NE SW Sec. 136, Blk. 29, W.&N.W. Sur. — Drlg. 840 ft.
Magnolia Pet. Co.'s No. 8 Dora Roberts, NW SW SW Sec. 136, Blk. 29 — Location.
Marland Oil Co.'s No. 1 Richardson, C NW Sec. 12, Blk. 32, T.&P. Sur., T-1-S — Top salt 270 ft.; hole full salt water 2,235-2,300 ft.; hole full sulphur water 2,780-2,800 ft. and 3,010 ft.; pulling pipe to abandon 3,614 ft.

Mays, Nixon & Flowers' No. 1 W. J. Flowers — Little salt at 876-97 ft.; top salt 1,114 ft.; shut down 2,100 ft.

Merrick & Lamb's No. 4 H. R. Clay, CSL SE NE Sec. 126, Blk. 29, W.&N.W. Sur. — Location.
Miley and Marland Oil Co.'s No. 1 C. D. Read, C NW Sec. 12, Blk. 31, T.&P. Sur., T-1-N — Spudded and shut down 5 ft.
Owen & Sloan's No. 4 Dora Roberts, Sec. 136, Blk. 29 — Shut down for orders 2,000 ft.
Pure Oil Co.'s No. 4 Otis Chalk, Sec. 125, Blk. 29, W. &N.W. Sur. — Rigging up.
Sprague Oil Co.'s No. 1 Roberts — Spudded and shut down.
Sun Oil Co.'s No. 2 W. R. Settles, NW SE SE Sec. 135, Blk. 29 — Setting 15-in. casing 605 ft.
Sweeney et al's No. 3 Chalk, Sec. 124, Blk. 29 — Location.
Sweeney et al's No. 4 Chalk, Sec. 124, Blk. 29 — Location.
Sweeney et al's No. 6 Chalk, Sec. 124, Blk. 129, W.&N.W. Sur. — Rig up and shut down.
Texon O. & L. Co. and Marland Oil Co.'s No. 2 W. R. Settles — Top lime 2,030 ft.; total depth 3,504 ft.; plugged back to 1,316 ft.

Texon and Marland's No. 3 W. R. Settles, C NE Sec. 140, Blk 29, W.&N.W. Sur. — Underreaming 10-in. casing 845 ft.
Texon and Marland's No. 2 W. R. Settles-A — Fishing for bailer 845 ft.
Weekly Oil Corp. et al's No. 1 Dora Roberts, Sec. 156, Blk. 29 — Top lime 2,090 ft.; total depth 3,505 ft.; plugging back to 1,900 ft.

HUDSPETH COUNTY

American Land Co.'s No. 1 Lockhart and Roseborough, C SE Sec. 5, School Blk. 21 — Shut down 260 ft.
Western States Oil Co.'s No. 1 Moore, C SE Sec. 16, Blk. 71, T.&P. Sur., T-6 — Shut down 1,707 ft.
Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW Sec. 12, Blk. 18 — Drlg. 1,775 ft.

IRION COUNTY

P. F. Hill's No. 1 Horney, 150 ft. S and 450 ft. W of NE cor. SW of Sec. 2, Blk. 3, H.&T.C. Sur. — Drlg. 1,605 ft.
Kimbrough & Tuel's No. 1 J. M. Nutt, 1,920 ft. S. 200 ft. E of NW cor. Sec. 5, Gonzales Co. School Land — Drlg. 310 ft.
L. P. Powell et al's No. 1 Marian Horney, 2,130 ft. N, 1,170 ft. E SW cor. Sec. 2, Blk. 3, H.&T.C. Sur. — Drlg. 320 ft.
F. E. Wo'b et al's No. 1 J. M. Nutt — Sulphur water 730 ft.; cleaning out 825 ft.

Wesley West et al's No. 1 J. D. Suggs, SE NW SE Sec. 19, Blk. 7, H.&T.C. Sur. — Location.

JEFF DAVIS COUNTY

J. K. Hughes Dev. Co.'s No. 2 Means — Drlg. 2,776 ft.
Humble O. & R. Co.'s No. 2 Crecencio Flores, 1,130 ft. N and 850 ft. E of SW cor. Sec. 34, Blk. 58, T.&P. Sur., Twp. 8 — Drlg. 4,700 ft.

JONES COUNTY

Roeser & Pendleton & Stebbins O. & G. Co.'s No. 2 G. H. Riggs, Sec. 30, W. T. Scott Sur. No. A-310 (NE of No. 1) — Location.
J. N. Sloan and others' No. 1 W. C. Bennett, NW cor. SW SE Sec. 42, Orphan Asylum Land — Spudded and shut down.
W. G. Stough and others' No. 1 J. P. Willis, J. C. Patterson Sur. No. 2 — Shut down 1,740 ft.
Texas & Wheeler's No. 1 Henry Sayles, C NE 34 acres, Sec. 3, Blk. 20, T.&P.R.R. — Drlg. 1,060 ft.

KENT COUNTY

J. S. Cosden & Co.'s No. 1 N. V. Bilby, Sec. 56, Blk. 98, H.&T.C. Sur. — Moving in material.
Marland and Texon's No. 1 Bilby — Top salt 610 ft.; top lime 2,160 ft.; measuring hole 3,515 ft., contract completed.

KNOX COUNTY

Deep Rock Oil Co.'s No. 1 Moore — Shut down 2,495 ft. for repairs.
Deep Rock Oil Co.'s No. 1 Big Four, 1,270 ft. S and 2,500 ft. W of NE cor. Sec. 21, Blk. 4 — Shut down 4,516 ft.; hole full water.

LOVING COUNTY

Delaware Oil Co.'s No. 1 Lockhart & Ramsey — Top salt 780 ft.; cementing 6-in. casing 4,145 ft., base salt.

Lockhart Bros.' No. 2 fee, 330 ft., 3,630 ft. W SE cor. Sec. 85, Blk. 23, H.&T.C. Sur. — Top salt 687 ft.; drlg. 2,765 ft.
Lockhart & Co.'s No. 1-A Lepp, Sec. 85, Blk. 33 — Total depth 2,360 ft.; fishing for tools.

LYNN COUNTY

Elpo Oil Co.'s No. 1 Nevois, NW cor. Sec. 6, Blk. C-42, School Lands — Drlg. 2,143 ft.
Hart Oil Corp.'s No. 1 C. O. Edwards A-1 — Rig.

MARTIN COUNTY

Phillips Pet. Co.'s No. 1 C. C. Slaughter, SE cor. Sec. 77, Bauer & Cockrell Sur. — Shut down 220 ft.

MENARD COUNTY

Carpenter & Robbins' No. 1 Kothman, NW cor. SW SW Sec. 22 — Shut down 600 ft.
Carpenter & Robbins' No. 2 Kothmann, 450 ft. W, 150 ft. N SE cor. SW Sec. 22, J. P. Kuhlmann Sur. — Location.
J. C. Barnett and T. H. Drake's No. 1 Callan City Co. Ranch, Sec. 22 — Drlg. 850 ft.
May & Clark's No. 1 Collen, Sec. 22, B.S.&F. — Shut down 505 ft.
Moody Oil Corp.'s No. 1 G. S. Allison, SE cor. Johann Kuhler Sur. No. 1,473 — Drlg. 1,435 ft.
Panhandle O. & R. Co.'s No. 1 G. P. Eckardt, C SW Sec. 10, Blk. 2, T.W.N.G.R.R. Sur. — Building rig.
Renfro et al's No. 1 J. Davis — Drlg. 375 ft.
Sabiens & Bevens' No. 1 F. Wilhelm, C Sec. 28, Indianola R. R. Co. Sur. — Location.
Sorrels & Jackson's No. 1 F. Wilhelm, C NE Sec. 6, Blk. C, Brooks & Borleson Sur. — Location.

MIDLAND COUNTY

Gholson et al's (was Orbit Oil Co.'s) No. 1 Moreland, C SE Sec. 17, Blk. 39, T.&P. Sur., T-1-S — Top salt 1,910 ft.; shut down 3,510 ft., contract depth.
Shoup et al's No. 1 Roy Parks — Total depth 1,200 ft.; underreaming 10-in. 1,100 ft.

MITCHELL COUNTY

Boehm Drilling Co.'s No. 1 Harry Hyman, C NW SE Sec. 90, Blk. 29, W.&N.W. Sur. — Shut down 505 ft.
California Oil Co.'s No. 8 C. M. Adams Lease No. 2, CSL NE NW Sec. 11, Blk. 28, Twp 1n. T.&P.R.R. Sur. — Top lime 1,528 ft.; drlg. plug 2,757 ft.
California Co.'s No. 5 Foster, Sec. 6, Blk. 29, T-1-S — Location.
Magnolia Oil Co.'s No. [illegible] Sec. 17 Blk 29 T.&P. — Top lime 1,738 ft.; drlg. 3,040 ft.
Owen & Sloan's No. 1 Brown, NE cor. Sec. 81, Blk. 26, T.&P.Sur. — Rigging.
Robert Thraves' No. 1 C. Way, Sec. 91, Blk. 27, T.&P. Sur., T-1-N — Total depth 2,503 ft.; shut down.

PECOS COUNTY

George Anderson's No. 1 University, C Sec. 11, Blk. 17 — Top salt 1,030 ft.; drlg. 1,490 ft.
Alexander & Lyle's No. 1 Myrtle Sellman, C SW SE Sec. 20, Blk. Z, T.C.Ry. Sur. — Location.
Benedum & Trees' No. 1 B. T. Corder — Shut down 494 ft.
Bob Elmore's No. 2 Holmes, SE cor. Sec. 45, Blk. 1, I.&G.N. Sur. — Top salt 435 ft.; drlg. 1,065 ft.
Buell & Hagan's No. 1 Pryor & Wilson, Sec. 15, Blk. 8 — Top salt 1,445 ft.; shut down 2,503 ft.

Diamond Pet. Co.'s No. 1 Blackstone & Slaughter, C E half Sec. 28, Blk. A-2 — Rig.
M. C. Dibble & Hale's No. 1 Bonebrake, Sec. 115, Blk. 8, H.&G.W. Sur., elev. 2,855 ft. — Shut down 1,170 ft.
Ditto Oil Co.'s No. 1 J. M. Montgomery, Sec. 104, Blk. 331, A-6,887 — Spudded and shut down.
Douglas Oil Co.'s No. 2 Myrtle Sellman, Sec. 14, Blk. Z, T.C.R.R. Sur. — Hole full salt water 795-860 ft.; 25 ft. sulphur water 1,614-15 ft.

Furman Oil Co.'s No. 1 T. W. McNear, Jr., Sec. 46, Blk. 9 — Moving in material.
Everett et al's No. 1 J. Fields — Spudded and shut down.
Kirby Pet. Co.'s No. 1 University, NE cor. Sec. 36, Blk. 24, University Land — Top lime 1,305 ft.; shut down 1,366 ft.

Mid-Kansas O. & G. Co.'s No. 1 Pryor & Wilson, NW cor. Sec. 2, Blk 5, T.C.R.R. Sur. — Top salt 1,455 ft.; setting 6-in. casing 2,145 ft.; drlg. 2,340 ft.
Phillips Pet. Co.'s No. 1 Nutt, SE cor. Sec. 8, Blk. 125 — Underreaming 450 ft.
B. J. Spikes' No. 1 George Brown — Shut down 700 ft.
Roxana Pet. Corp. and Kirby Pet. Co.'s No. 1 University, Sec. 23, Blk. 26 — Shut down 255 ft.
Southern C. O. P. Co.'s No. 1 Scharbauer Cattle Co., SW cor. Sec. 21, Blk. 124 T.&S. I. Sur. — Drlg. 400 ft.
Stidham & Thrasher's No. 1 Belgrade Ranch Co., Sur. 3, Mrs. S. Tompkins A-4,695 — Flowing sulphur water; shut down 2,020 ft.

Transcontinental Oil Co.'s No. 1 University, NE NW SW Sec. 18, Blk. 18 — Top lime 1,155 ft.; drlg. 1,814 ft.
Vacuum Oil Co.'s No. 1 Elsinore Cattle Co., Sec. 60, Blk. D, G.C.&S.F. Sur. — Drlg. 2,610 ft.
World Oil Co.'s No. 1 Kloh, Sec. 47, Blk. 45, Twp. 8, T.P.R.R. Sur., elev. 2,810 ft. — Drlg. 1,225 ft.
World Oil Co.'s No. 1 Serf, C NE Sec. 10, Blk. 130, T.&St.L. Sur., elev. 3,435 ft. — Drlg. 3,200 ft., hard gray lime.

Yates Pool, Pecos County

Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 6 River Bed — Rig.
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 8 River Bed — Hole full of fluid, 25 per cent water; shut down 1,095 ft.

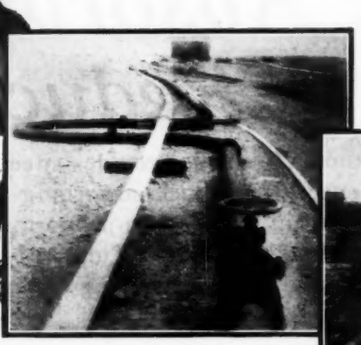
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 9 River Bed — Location.
Pandem Oil and Gibson Oil Co.'s (was Allsman & Bell's) No. 12 River Bed — Location.
Pandem Oil and Gibson Oil Co.'s No. 14 River Bed — Location.
Pandem Oil and Gibson Oil Co.'s No. 15 River Bed — Location.
Bateman & Price's No. 1 Pecos River Bed, 150 ft. N and W of NE cor. Sec. 29, Blk. 12, H.&G.N. Sur. — Driving piling.
California Co.'s No. 2 Yates, Sec. 34, Blk. 194 — Rig.
California Co.'s No. 15 I. G. Yates, Lease 1, Sec. 34, Blk. 194 — 50,000,000 ft. gas from 1,085-1,109 ft.; flowing 400 bbls. hr.; shut down 1,109 ft., top of pay.

California Oil Co.'s No. 16 I. G. Yates, Lease 1, Sec. 34, Blk. 194 — Drlg. 1,164 ft.
California Co.'s No. 1 Mrs. M. A. Smith, Lease 2, Sec. 26, Blk. 194, G.C.&S.F. Sur. — Total depth 1,595 ft.; plugging back to 1,577 ft.

California Co.'s No. 12 Smith, Lease 3 — Drlg. 1,399 ft.
Humble O. & R. Co.'s No. 7 M. A. Smith, SW cor. NW Sec. 26, Blk. 194 — Top lime 1,305 ft.; top sulphur water 1,310 ft.; shut down 1,536 ft.

Humble O. & R. Co.'s No. 8 Mrs. M. A. Smith, NW SW SW Sec. 26, Blk. 194, G.C.&S.F. Sur. — Location.
Matador Oil Co.'s No. 1 Smith, NW cor. SE NE Sec. 24, Blk. 194, G.C.&S.F. Sur. — Cellar.
McDonald et al's No. 1 A. A. Parsell, C NW SE Sec. 28, Blk. A, G.C.&S.F.R.R. Sur. — Shut down 100 ft.
McMan and Marland's No. 16 Yates, Sec. 34½, Blk. 194, G.C.&S.F. Sur. — Drlg. 920 ft.

Victaulic Couplings for Mid-Continent oil line.



Victaulic Couplings eliminate need for expansion bends in Peru.

Victaulic Couplings on gathering lines in Venezuela.

Victaulic Couplings

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* * * *

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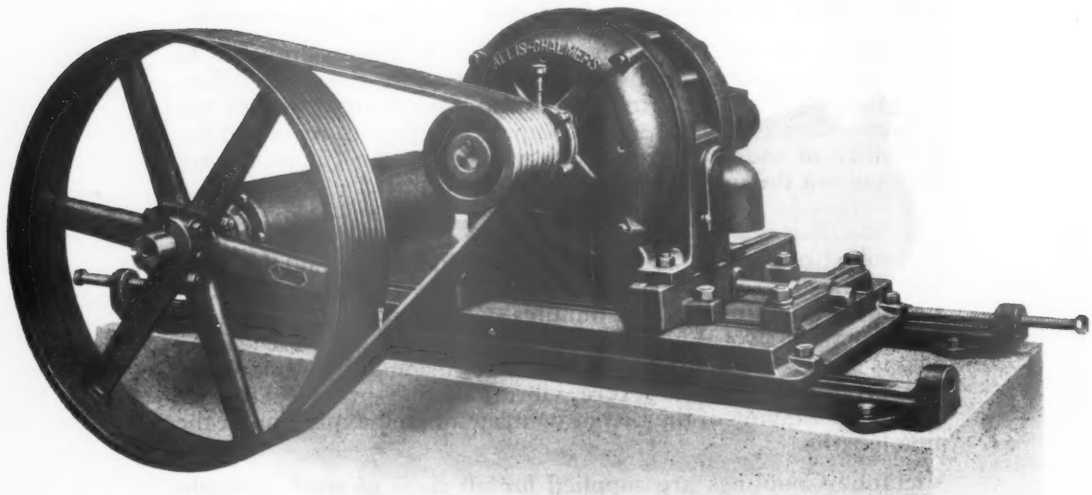

Oil Field Offices

DALLAS
HOUSTON
KANSAS CITY
NEW ORLEANS
DENVER
LOS ANGELES
SAN FRANCISCO
SAN ANTONIO
EL PASO

WESTERN SUPPLY COMPANY
TULSA, OKLAHOMA

Stock at
Houston
Tulsa
Sweetwater

ALLIS-CHALMERS MOTORS
and TEXROPE DRIVES

McMan Oil Co.'s No. 1 Mrs. M. A. Smith, SW cor. Sec. 104, Blk. 194 ..... Drlg. 1,167 ft.
McMann Oil Co.'s No. 2 Smith-B, 1,400 ft. S and 870 ft. W of NE cor. Sec. 104, Blk. 194 ..... Drlg. 1,148 ft.
Marland Oil Co.'s No. 11 Yates-A ..... Location.
Marland Oil Co.'s No. 12 Yates-A ..... Location.
Marland Oil Co.'s No. 13 Yates-A ..... Location.
Michaelson & Tabot's No. 1 River Bed ..... Top salt 430 ft.; shut down 2,012 ft.

Mid-Kansas and Transcontinental's No. 17 I. G. Yates-A, Sec. 31, Blk. 194 ..... Drlg. 1,206 ft.
Mid-Kansas and Transcontinental's No. 18 Yates-A, Lease A-8,195 ..... Drlg. 650 ft.
Mid-Kansas and Transcontinental's No. 19 Yates-A, Tract A-8,195, G.C.&S.F. Sur. ..... Location.
Mid-Kansas and Transcontinental's No. 18 Yates-B ..... Show oil 1,095 ft.; flowed sulphur water 1,108 ft.; plugged back to 1,087 ft.; 400 ft. water; 300 ft. oil in hole.

Mid-Kansas and Transcontinental's No. 2 I. G. Yates-G, Sec. 34½, Blk. 194 ..... Location.
Mid-Kansas and Transcontinental's No. 9 Smith-Taylor ..... Drlg. 1,303 ft.
Mid-Kansas and Transcontinental's No. 15 Smith-Taylor, 2,250 ft. S. and 1,320 ft. E. of NW cor. Sec. 33, Blk. 194 ..... Rig.
Red Bank Oil Co.'s No. 3 Mrs. M. A. Smith, Sec. 24, Blk. 194, G.C.&S.F. Sur. ..... Drlg. 800 ft.
Roxana Pet. Corp.'s No. 1 Smith-B, 990 ft. S, 1,025 ft. W of NE cor. Sec. 24, Blk. 194 ..... Drlg. 335 ft.

PRESIDIO COUNTY

Headlock & Miller's No. 1 Tootle Est., Sec. 123, Blk. 3, D.&P. Sur., elev. 2,912 ft. ..... Salt water 2,610 ft.; total depth 3,003 ft.; shut down for orders.
Pinto Canyon Oil Co.'s No. 1 Fields, 1,760 ft. S and E NW cor. Sec. 74, Blk. 2, D.&P. Sur. ..... Location.

REAGAN COUNTY

California Oil Co.'s No. 4 University, NW cor. Sec. 3, Blk. 7 ..... Top salt 1,310 ft.; underreaming 3,048 ft.
Hagan & Emch's No. 1 E. W. Loftin, C E half Sec. 1,271, D.&S.E. Sur. ..... Top salt 1,065 ft.; shut down 3,067 ft.
Marland Oil Co.'s No. 1 University, SE cor. SW Sec. 26, Blk. 8 ..... Top salt 1,360 ft.; drlg. 2,850 ft.
Moody Oil Co.'s No. 1 R. A. Walters ..... Spudding and shut down.
Roxana Pet. Corp.'s No. 1 University, NW cor. Sec. 30, Blk. 11, University Lands ..... Fishing 410 ft.
Skelly Oil Co.'s No. 2 University, SE SW SE Sec. 35, Blk. 8 ..... Drlg. 2,695 ft.
Texon O. & L. Co.'s No. 1-B University, Group 1 ..... Top pay 6,250 ft.; 2,000 ft. oil; drlg. 8,170 ft.
White et al's No. 1 Shofner & Sterling, NE cor. NW Sec. 10, 2 mi. N of Big Lake ..... Top salt 1,275 ft.; shut down 2,886 ft.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Shut down 2,170 ft.
Grisham-Hunter Corp.'s No. 1 Rathge & Connor, 600 ft. from N line and 5,760 ft. from W line of Sec. 26, Blk. 2, H.&G.N. Sur. ..... Top salt 1,037 ft.; drlg. 3,237 ft.
David R. Thompson's No. 1 A. A. Eddins ..... Shut down 5,499 ft. for casing.
Vacuum Oil Co.'s No. 1 Grisham-Hunter ..... Total depth 3,648 ft.; pulling all casing.
World Oil Co.'s No. 1 A. L. Duff, 1,500 ft. from S line, 850 ft. from NE line, Johnson Sur. No. 68, elev. 2,774 ft., contract depth 4,000 ft. ..... Moving in material.

RUNNELS COUNTY

Agnew & Schields' No. 1 R. R. Russell, in Mrs. H. Hollier, Sur. No. 13½ ..... Drlg. 350 ft.
Gibson & Johnson's No. 1 W. H. Rainwater, 660 ft. N and E of SW cor. of J. H. San Miguel Sur. (cor. location for No. 1 Harris) ..... Location.
Globe Pet. Co.'s No. 1 J. H. Webb, 500 ft. S and W of NE cor. J. H. Webb 115-acre tract out of G.C.&S.F. Sur. No. 2 ..... Location.
Jones Oil Syndicate's No. 1 W. Hale ..... Shut down 2,210 ft.
McLean et al's No. 1 G. W. Clayton ..... Shut down 1,050 ft.
Marland Oil Co.'s and E. L. Smith Oil Co.'s No. 1 A. C. Herring, C Sec. 121, E.T.R.R. Sur. (3,000-ft. test) ..... Drlg. 650 ft.
Marland Oil Co.'s No. 1 R. R. Russell, near CSL J.F.G. Sur. ..... Drlg. 2,190 ft.
Kennedy et al's No. 1 J. E. Tally ..... Shut down 2,340 ft.
May et al's No. 1 J. M. Schneider, John Wall Sur. ..... ½ baller salt water 1,033 ft.; hole full water 1,100-20 ft.; fishing 1,775 ft.
Miles Oil Co.'s No. 1 Charles Ray, Sec. 21, T.&N.O. Sur. ..... Cellar and machine.
Miles Oil Co.'s No. 1 L. S. Lawhon, NE cor. Sec. 68 ..... Show gas 960-80 ft.; shut down 2,450 ft.
Royal Pet. Co.'s No. 1 A. C. Willingham ..... Preparing to run 10-in. 1,410 ft.
R. B. Summers et al's No. 1 J. W. Reese, M. J. Parramore Sur. No. 26 ..... Cleaning out 750 ft.
Swensondale Oil Co.'s No. 1 E. A. Werner ..... Shut down 3,008 ft.
Vacuum Oil Co., Lou Ladd et al's No. 1 J. S. Flanagan, NW cor. Subdivision No. 29, Domingo Diaz Sur. No. 532 ..... Spudded and shut down.
Vacuum Oil Co. et al's No. 1 H. B. Fowler, Subdivision No. 23, Domingo Diaz Sur. No. 532 ..... Fishing 1,568 ft.
Watchorn O. & G. Co.'s No. 1 J. L. King ..... Drlg. 3,460 ft.

SCHLEICHER COUNTY

Beavers & Leath et al's No. 1 J. A. and W. T. Whitten, C NW Sec. 35, Blk. 11, T.O. Sur. ..... Shut down 400 ft.
J. P. Long and O. C. Long's No. 1 W. H. Williams, NE cor. Sec. 28, H.E.&W.T.R.R. Sur. ..... Rigging cable tools.

SCURRY COUNTY

J. B. Mims et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C. Sur. ..... Rig.

STERLING COUNTY

Manhattan Oil Co., Hucony Gas Co. et al's No. 1 Elwood, 2,640 ft. W, 250 ft. N SE cor. Sec. 14, Blk. 2, H.&T.C. Ry. Sur. ..... Building rig.
Orr et al's (to be taken over by Empire G. & F. Co.) No. 1 Neal Reed, CNL Sec. 15, Blk. 30, W.&N.W. Sur. ..... Shut down 1,390 ft. (cor.).

STONEWALL COUNTY

Henshaw Oil Corp.'s No. 1 W. P. Moore, Sec. 136, Blk. 1, H.&T.C. Sur. ..... Drlg. 1,112 ft.

SUTTON COUNTY

J. D. Nantz et al's No. 1 G. Allison, C NE Sec. 29, Blk. B, H.E.&W.T.R.R. Sur. ..... Shut down 100 ft.
National Potash Co.'s No. 1 J. N. Ross ..... Shut down shale 1,329 ft.

TAYLOR COUNTY

A. J. Brown et al's No. 1 Henslee, NE cor. Sec. 5, Blk. 4, S.P.R.R. Sur. ..... Shut down 2,935 ft.
Dorning & Perrine's No. 1 J. A. Hammer, C N 100 acres, Sec. 23, Blk. 19, T.&P. Sur., elev. 1,904 ft. ..... Shut down 455 ft.
Gilbert Johnson and Day Bros.' No. 1 C. M. Brown, Sec. 1, Blk. 6, T.&P. Sur. ..... Hole full water 2,170-2,220 ft.; cased off; shut down 3,003 ft., contract depth.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett ..... Location.
Champlin Ref. Co.'s No. 1 Corder, C Sec. 110, Blk. 1, C.C.S.D. Sur. ..... Drlg. 2,489 ft.
Deep Rock Oil Co.'s No. 1 H. C. Nolke, Sec. 4, Blk. A-2, T.C.R.R. Sur. ..... Drlg. 2,420 ft.
Humble Oil Co.'s No. 1 University, Sec. 15, Blk. 34 ..... Drlg. 2,920 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Blk. D-7, E.L.&R.R. Sur. ..... Rig.
Milham Exploration Co.'s No. 1 Bassett, Sec. 77, Blk. Y, W. E. Robertson Sur. ..... Fishing 2,408 ft.
Bryan and Breen's No. 1 Allison & Burke, C NW Sec. 10, Blk. 176, Texas-Mex.R.R. Sur. ..... Rig.
Woodley & Jones' No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.R.G.&N.G.R.R. Sur. ..... Rig.

TERRY COUNTY

Kingsland O. & P. Co.'s No. 1 Brownfield, C NW SW SW Sec. 7, Blk. 1-A, E.L.R.R. Sur. ..... Shut down 4,008 ft., contract depth.

TOM GREEN COUNTY

Collins et al's No. 1 Jones, CSL Sec. 646, Shaffer Sur. ..... Rig.
Cox et al's No. 1 Llano ..... Shut down 845 ft.
Fitzgerald's & Taliaferro's No. 1 Bennett ..... Shut down 1,955 ft.
Lone Eagle Oil Co.'s No. 1 Sharp, SE W Elzel Sur. No. 167 ..... Spudded and shut down.
Marland Oil Co.'s No. 1 J. W. Johnson-A ..... Shut down 3,417 ft.
McLaughlin & Ridge's No. 1 R. Q. Holder, 3,140 ft. N and 80 ft. W SE cor. J. P. Parker Sur. (3,000-ft. test) ..... Shut down 50 ft.
Tulsa Oil Co.'s No. 1 Adams, C SW Sec. 163, Blk. 11, S.P.R.R. Sur. ..... Shut down 1,020 ft.
Haubelt et al's No. 1 Johnson ..... Shut down 4,205 ft.
World Oil Co.'s No. 1 Mrs. F. T. March ..... Location.

UPTON COUNTY

Mark Curtis et al's (was Hultz et al's) No. 2 Giddings, 5,336 ft. S and 6,678 ft. E of NW cor. Throckmorton Co. School Land, League 1, elev. 2,757 ft. ..... Shut down 975 ft.
Penn and Atlantic's No. 1 Live Stock Exchange, Sec. 34, Blk. 38 ..... Underreaming 10-in. casing 1,577 ft.
The Texas Company and Cordova Union's No. 1 Union Land, Sec. 23, Blk. 35, H.&T.C. ..... Top pay 2,098 ft.; swabbed 60 bbls. in 36 hrs. at 2,271 ft., 2 per cent water; 2,200 ft. sulphur water 2,390-2,405 ft.; total depth 3,201 ft.; plugged back to 2,350 ft. and lost bailer; fishing.
Wise & Jackson's No. 1 J. H. Porter, SW cor. SW SW Sec. 184, Blk. E, elev. 2,592 ft. ..... Top pay 3,419 ft.; total depth 3,517 ft., gray lime; shut down.

VAL VERDE COUNTY

A. Blume et al's No. 1 Moore Est., Sec. 183, J. Mitchell Sur., elev. 953 ft. ..... Shut down 3,000 ft.
Curso Williams' No. 1 Holman, NE NE Sec. 5, Blk. N, G.H.&S.A. Sur. ..... Shut down 2,940 ft.
East Del Rio Oil Co.'s No. 1 Russell, SE cor. Sec. 183, Del Rio Town Sur., elev. 941 ft. ..... Shut down 3,320 ft.
Magnolia Pet. Co.'s No. 1 Whitehead, Sec. 81, D.G.C. &S.F. Sur., elev. 1,770 ft. ..... Preparing to plug 6,725 ft.
Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I.G.&N. Sur., elev. 1,175 ft. ..... Shut down 3,900 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,750 ft.; gas; reset 8-in. 2,511 ft.; shut down 4,210 ft.
W. B. Thraves et al's No. 1 W. E. Wilson ..... Shut down 930 ft.

WARD COUNTY

Alfredo Del Cambre's No. 1 Lee Monroe, Sec. 50, Blk. 33, H.&T.C. Sur. ..... Spudded and shut down.
Denver P. & R. Co.'s No. 1 Cherokee Land & Investment Co., 990 ft. from NEL and 2,310 ft. from SEL, Sec. 215, Blk. 34, H.&T.C. Sur. (4,000-ft. test) ..... Drlg. 200 ft.
E. H. Devore et al's No. 1 Black, Sec. 214, Blk. 34, H.&T.C. Sur. ..... Spudded and shut down.
Estex Oil Co.'s No. 1 W. A. Estes, C SW NE Sec. 4, Blk. B-29 (3,500-ft. test) ..... Setting 10-in. casing 628 ft.
Rector Oil Co.'s No. 1 State, 990 ft. from NEL and NWL, Sec. 30, Blk. 4, H.&T.C.Sur. ..... Spudded and shut down.
Selby Oil Co. et al's No. 1 A. G. Dooley et al, Sec. 85, Blk. A, G.M.M.&A. Sur. ..... Drlg. 2,205 ft.

WINKLER COUNTY

Amerada Pet. Corp.'s No. 1 J. B. Walton, SW cor. NW Sec. 48, Blk. 26, elev. 2,833 ft. ..... Fishing 2,502 ft.
Atlantic O. P. Co.'s No. 2 Hendricks-G, 440 ft. S, 330 ft. E NW cor. Sec. 46, Blk. 26 ..... Location.
Atlantic and Collett's No. 7 Hendricks-F, Sec. 40, Blk. 26 ..... Cellar.
Atlantic and Collett's No. 8 Hendricks-F, Sec. 40, Blk. 26 ..... Location.
Atlantic O. P. Co.'s No. 2 Grisham-Hunter-A, Sec. 34, Blk. B-5 ..... Shot 480 qts. 2,850-2,999 ft.; shot 960 qts. 2,800-2,991 ft.; no results; total depth 3,000 ft.; temporarily abandoned.
Atlantic O. P. Co.'s No. 7 Grisham-Hunter-A, NE SE E half SW Sec. 34, Blk. B-5 ..... Top lime 2,490 ft.; drlg. 3,007 ft.; flowing 70 bbls. per hour.
Atlantic O. P. Co.'s No. 8 Grisham-Hunter-A, SE NE E half SW Sec. 34, Blk. B-5 ..... Top lime 2,456 ft.; drlg. 2,925 ft.
Atlantic O. P. Co.'s No. 2 Grisham-Hunter-E, NW cor. Sec. 41, Blk. B-5 ..... Drlg. 1,410 ft.
Atlantic O. P. Co.'s No. 3 Grisham-Hunter-E, CNL N half NE Sec. 41, Blk. B-5 ..... Location.
Atlantic O. P. Co.'s and Collett's No. 3 Hendrick-F, NW NE NW Sec. 40, Blk. 46 ..... Top salt 1,827 ft.; drlg. 1,953 ft. (cor.).
Atlantic and Collett's No. 4 Hendrick-F, NE NW Sec. 40, Blk. 26 ..... Top lime 2,343 ft.; drlg. 2,711 ft.
Atlantic O. P. Co.'s No. 5 Hendricks-E, NE cor. Sec. 41, Blk. B-5 ..... Setting 12-in. casing 401 ft.
Atlantic O. P. Co.'s No. 1 Grisham-Hunter-C (was Lemar), SW cor. Sec. 40, Blk. B-5 ..... Total depth 2,978 ft.; gas pressure split connections; est. 75,000,000 ft. gas; running wild; trying to kill gas; top salt 1,573 ft.; top lime 2,200 ft.
Atlantic O. P. Co.'s No. 5 Ida Hendricks-D, SW SE S half NW Sec. 29, Blk. B-5 ..... Top salt 1,543 ft.; top lime 2,550 ft.; drlg. 2,823 ft.
Atlantic O. P. Co.'s No. 6 Hendricks-D, SE cor. SW S half NW Sec. 29, B-5 ..... Top lime 2,667 ft.; top salt 1,542 ft.; top pay 2,925 ft.; total depth 2,935 ft.; est. 8,000 bbls.
Atlantic O. P. Co.'s No. 7 Hendricks-D, NW cor. SW S half NW Sec. 29, Blk. B-5 ..... Drlg. 274 ft.
Atlantic O. P. Co.'s No. 8 Hendricks-D, SW cor. S half NW Sec. 29, Blk. B-5 ..... Setting 12-in. casing 296 ft.
Atlantic O. P. Co.'s No. 1 Hendricks-G, SW cor. NW Sec. 46, Blk. 26 ..... Drlg. 401 ft.
Atlantic O. P. and Collett's No. 2 Ida Hendricks-F ..... Top salt 1,984 ft.; top lime 2,458 ft.; drlg. 2,675 ft.
Atlantic and Collett's No. 5 Ida Hendricks-F, SE SW NW Sec. 40, Blk. 26 ..... Drlg. 1,915 ft.
Atlantic and Collett's No. 6 Ida Hendricks-F, SW SE NW Sec. 40, Blk. 26 ..... Drlg. 1,419 ft.
V. T. Bolin et al's No. 1 Brown ..... Top salt 1,302 ft.; setting 6-in. casing 2,475 ft.
California Oil Co.'s No. 5 Hendricks, SE cor. E half NE Sec. 29, Blk. B-5 ..... Top lime 2,560 ft.; top salt 1,295 ft.; top lime 2,500 ft.; top pay 2,780 ft.; total depth 2,960 ft.; plugged back to 2,910 ft.; sulphur water 2,920-30 ft.; shot 120 qts. 2,820-2,900 ft.; est. 300 bbls.
California Oil Co.'s No. 6 Hendricks, NW cor. E half NE Sec. 29, Blk. B-5 ..... Top salt 1,217 ft.; top lime 2,471 ft... top pay 2,780 ft.; cleaning out 2,960 ft.
Cranfill & Reynolds' No. 1 Hendricks-D, SW NW NW Sec. 33, Blk. 26 ..... Cem. 600 ft.
Cranfill & Reynolds' No. 1 Hendricks-C, SE NW Sec. 33, Blk. 26 ..... Location.
Danciger et al's No. 1 John Sealy, SW cor. NE Sec. 93, Blk. A, G.M.M.B.&A. Sur. ..... Top salt 1,085 ft.; shut down 1,820 ft. for engine.
Gibson-Johnson and Kesslar & Logan's No. 1 Daugherty, C SW Sec. 3, Blk. 74 ..... Top salt 1,980 ft.; total depth 3,070 ft.; 15,000,000 gas; no oil.
Gulf Prod. Co.'s No. 2 T. G. Hendricks, NE NW NW Sec. 34, Blk. B-5 ..... Rig standing.
Gulf Prod. Co.'s No. 8 T. G. Hendricks, Sec. 34, Blk. B-5 .. Lost old hole; now drlg. 230 ft.
Gulf Prod. Co.'s No. 9 T. G. Hendricks, Sec. 34, Blk. B-5 .. Top lime 1,837 ft.; top pay 2,824 ft.; flowing 100 bbls. per day, 50 per cent water; total depth 2,981 ft.; running 5-in.
Gulf Prod. Co.'s No. 12 T. G. Hendricks, Sec. 34, Blk. B-5 .. Top lime 2,342 ft.; top salt 1,410 ft.; top pay 2,750 ft.; drlg. 2,805 ft.
Gulf Prod. Co.'s No. 13 T. G. Hendricks, Sec. 40, Blk. B-5 .. Drlg. hard lime 2,980 ft.
Gulf Prod. Co.'s No. 15 T. G. Hendricks, C NW SW NW

Sec. 40, Blk. B-5 ..... Top lime 2,233 ft.; total depth 2,655 ft.

Gulf Prod. Co.'s No. 16 T. G. Hendricks, NW cor. Sec. 40, Blk. B-5 ..... Drlg. 220 ft.

Gulf Prod. Co.'s No. 17 T. G. Hendricks, SE cor. NE Sec. 45, Blk. 26 ..... Spudding.

Gulf Prod. Co.'s No. 18 Hendricks, 440 ft. from N and 330 ft. from E lines Sec. 45, Blk. 26 ..... Building derrick.

Gulf Prod. Co.'s No. 19 Hendricks, 440 ft. from N and 330 ft. from W lines NE Sec. 45, Blk. 26 ..... Moving in material.

Humble O. & R. Co.'s No. 1 Hendricks-B, NE NW SW Sec. 39, Blk. 26 ..... Rigging up.

Humble O. & R. Co.'s No. 2 Hendricks-B, NW NE SW Sec. 39, Blk. 26 ..... Moving in rig.

Humble O. & R. Co.'s No. 3 Hendricks-C, SE NE SE Sec. 32, Blk. 26 ..... Total depth 1,590 ft.; drill pipe stuck.

Humble O. & R. Co.'s No. 3 Hendricks-C, SE NE NE Sec. 32, Blk. 26 ..... Drlg. 420 ft.

Humble O. & R. Co.'s No. 4 Hendricks-C, SE cor. NE Sec. 32, Blk. 26 ..... Drlg. 896 ft.

Humble O. & R. Co.'s No. 5 Hendricks-C, NE cor. SE Sec. 32, Blk. 26 ..... Drlg. 800 ft.

Humble O. & R. Co.'s No. 6 Hendricks-C, NE cor. Sec. 32, Blk. 26 ..... Building rig.

Humble O. & R. Co.'s No. 1 J. B. Walton-B, SE cor. N half Sec. 47, Blk. 26 ..... Rigging up.

Humble O. & R. Co.'s No. 1 J. B. Walton-A, NW cor. Sec. 48, Blk. 26 ..... Derrick.

Humble O. & R. Co.'s No. 3 Grisham-Hunter, Sec. 34, Blk. B-5 ..... Top salt 1,362 ft.; top lime 2,188 ft.; shut down 2,898 ft.; 50,000,000 ft. gas.

Humble O. & R. Co.'s No. 8 Grisham-Hunter ..... Top salt 1,240 ft.; top lime 2,323 ft.; total depth 2,915 ft.; resetting 5-in. casing.

Humble O. & R. Co.'s No. 9 Grisham-Hunter, NE NE Sec. 34, Blk. B-5 ..... Top salt 1,310 ft.; total depth 2,188 ft.; reaming.

Humble O. & R. Co.'s No. 11 Grisham-Hunter, SW cor. W half NW Sec. 41, Blk. B-5 ..... Top lime 2,497 ft.; drlg. 2,700 ft.

Humble O. & R. Co.'s No. 14 Grisham-Hunter, NE W half NW Sec. 41, Blk. B-5 ..... Drlg. 1,658 ft.

Humble O. & R. Co.'s No. 32 Grisham-Hunter, NW SE NE Sec. 34, Blk. B-5 ..... Drlg. 1,367 ft.

Humble O. & R. Co.'s No. 7 Ida Hendricks-B, SE NW N half SE Sec. 29, Blk. B-5 ..... Shut down 210 ft.

Humble O. & R. Co.'s No. 3 Hendricks-B, 440 ft. N, 330 ft. E of SW cor. Sec. 39, Blk. 26 ..... Location.

Independent O. & G. Co.'s No. 4 Grisham-Hunter, SE NW SW Sec. 34 ..... Top salt 1,485 ft.; top lime 2,505 ft.; drlg. 2,961 ft.; flowing 300 bbls.

Independent O. & G. Co.'s No. 3 Vardeman-B, SE NE NW Sec. 41, Blk. B-5 ..... Top salt 1,340 ft.; top lime 2,328 ft.; cleaning out 2,876 ft.

Independent O. & G. Co.'s No. 5 Vardeman-B, NW SE NW Sec. 41, Blk. B-5 ..... Top salt 1,570 ft.; top lime 2,395 ft.; drlg. 2,400 ft.

Independent O. & G. Co.'s No. 6 Vardeman-B, NW cor. E half NW Sec. 41, Blk. B-5 ..... Drlg. 1,429 ft.

Independent O. & G. Co.'s No. 7 Vardeman-B, NE cor. E half NW Sec. 41, Blk. B-5 ..... Rigging up.

Independent O. & G. Co.'s No. 1 E. W. Cowden, SE NW NW Sec. 36, Blk. B-5 ..... Shut down 3,061 ft.; flowing 202 bbls.

Liner Drlg. Co.'s No. 1 Seth-Campbell, NE cor. Sec. 3, Blk. B-5 ..... Shut down 450 ft.

Landreth and Roxana's No. 1 E. W. Cowden-A, NW cor. Sec. 3, Blk. 12 ..... Drlg. 2,191 ft.

Landreth Prod. Co.'s No. 1 T. G. Hendricks-B, NW cor. E half NE Sec. 40, Blk. 26 ..... Top salt 1,496 ft.; drlg. 2,204 ft.

Landreth and Roxana's No. 2 Hendricks-B, SE cor. E half NE Sec. 40, Blk. 26 ..... Drlg. 545 ft.

Landreth and Roxana's No. 5 Ida Hendricks-A, NW NE SW Sec. 39, Blk. B-5 ..... Top lime 2,620 ft.; drlg. 2,802 ft.

Landreth and Roxana's No. 6 Hendricks-A, NE cor. NW SW Sec. 39, Blk. B-5 ..... Top salt 1,543 ft.; top lime 2,611 ft.; drlg. 2,825 ft.

Landreth and Roxana's No. 7 Hendricks-A, NW cor. SW Sec. 39, Blk. B-5 ..... Drlg. 1,064 ft.

Landreth and Roxana's No. 1 T. G. Hendricks-C, NE NW SW Sec. 40, Blk. 26 ..... Drlg. 1,382 ft.

Landreth and Roxana's No. 2 Hendricks-C, Sec. 40, Blk. 26 ..... Location.

Landreth and Roxana's No. 3 Hendricks, Sec. 45, Blk. 26 ..... Location.

Landreth and Roxana's No. 1 Hendricks-D, NE cor. E. half SE Sec. 40, Blk. 26 ..... Drlg. 175 ft.

Landreth and Roxana's No. 1 Hendricks-E, SE cor. W half NW Sec. 39, Blk. 26 ..... Building rig.

Llano Oil Co.'s No. 1 Armstrong, common cor. Secs. 13, 12, 18, 19, Blk. B-5 ..... Location.

Marland Oil Co.'s No. 1 T. G. Hendricks, SE cor. W half Sec. 33, Blk. 26 ..... Top lime 2,340 ft.; drlg. 2,394 ft.

Marland Oil Co.'s No. 2 T. G. Hendricks, NE SE SE Sec. 33, Blk. 26 ..... Cellar.

Marland Oil Co.'s No. 3 T. G. Hendricks, NE SE SW Sec. 33, Blk. 26 ..... Top lime 2,365 ft.; drlg. 2,480 ft.

Marland Oil Co.'s No. 4 T. G. Hendricks, SW NE SW Sec. 33, Blk. 26 ..... Drlg. 760 ft.

Marland Oil Co.'s No. 5 T. G. Hendricks, NW NE SW Sec. 33, Blk. 26 ..... Shut down 20 ft.

Marland Oil Co.'s No. 6 T. G. Hendricks, NE cor. SW Sec. 33, Blk. 26 ..... Shut down 20 ft.

Marland Oil Co.'s No. 1 Hendricks-A, SE cor. Sec. 29, Blk. 26 ..... Location.

Magnolia Pet. Co.'s (was G. M. Church et al's) No. 2 Ida Hendricks ..... Show oil 2,750 ft.; top pay 2,865 ft.; total depth 2,961 ft.; ran 8-in. with packer to 2,955 ft.; failed to shut off water; plugging back.

Magnolia Pet. Co.'s No. 5 Ida Hendricks ..... Top salt 1,624 ft.; top lime 2,509 ft.; top pay 2,940 ft.; shut down 3,022 ft.; no production.

Magnolia Pet. Co.'s No. 7 Ida Hendricks ..... Top lime 2,448 ft.; top salt 1,365 ft.; top pay 2,860 ft.; drlg. 3,028 ft.; flowed 270 bbls. 18 hrs.

Magnolia Pet. Co.'s No. 8 Ida Hendricks ..... Top salt 1,610 ft.; top lime 2,495 ft.; show oil 2,795 ft.; drlg. 2,995 ft.; flow, 200 bbls., 10% water.

Murchison Oil Co. et al's No. 1 Grisham-Hunter-B, NE cor. SW SW Sec. 35, Blk. B-5 ..... Top salt 1,335 ft.; shut down 2,427 ft.

Murchison Oil Co. et al's No. 2 Grisham-Hunter-B ..... Location.

Mining & Engineering Co.'s No. 1 T. G. Hendricks, Sec. 10, Blk. B12 ..... Hole full fresh water; shut down 1,233 ft.

Murchison Oil Co. and Cranfill Bros.' No. 2 Grisham-Hunter-A ..... Location.

Murchison Oil Co. and Cranfill Bros.' No. 4 Grisham-Hunter ..... Location.

Murchison Oil Co. and Cranfill Bros.' No. 1 Hendricks-H (5-acre tract), Sec. 33, Blk. 26 ..... Top lime 2,403 ft.; drlg. 2,560 ft.

Prairie O. & G. Co.'s No. 1 T. G. Hendricks, NW cor. E half SW Sec. 40, Blk. 26 ..... Set. 15-in. casing 440 ft.

Prairie O. & G. Co.'s No. 2 Hendricks, Sec. 40, Blk. 26 ..... Location.

Pure Oil Co.'s No. 5 Hendricks-H, SE SW SE Sec. 34, Blk. B-5 ..... Top lime 2,420 ft.; top salt 1,412 ft.; shut down 2,762 ft.

Pure Oil Co.'s No. 6 Hendricks-B ..... Top salt 1,315 ft.; top lime 2,388 ft.; shut down 2,865 ft. for casing.

Pure Oil Co.'s No. 7 Hendricks-B, NE SE SE Sec. 34, Blk. B-5 ..... Top salt 1,212 ft.; top lime 2,331 ft.; drlg. 2,685 ft.

Pure Oil Co.'s No. 8 Hendricks-B, SE NE SE Sec. 34, Blk. B-5 ..... Top salt 1,479 ft.; top lime 2,291 ft.; drlg. 2,515 ft.

Pure Oil Co.'s No. 9 Hendricks-B, NW NE SE Sec. 34, Blk. B-5 ..... Top salt 1,240 ft.; top lime 2,278 ft.; fishing 2,520 ft.

Pure Oil Co.'s No. 10 Hendricks-B, NE NW SE Sec. 34, Blk. B-5 ..... Top lime 2,322 ft.; drlg. 2,518 ft.

Pure Oil Co.'s No. 11 Hendricks-B, SW NW SE Sec. 34, Blk. B-5 ..... Top lime 2,404 ft.; drlg. 2,405 ft.

Pure Oil Co.'s No. 12 Hendricks-B, NW SW SE Sec. 34, Blk. B-5 ..... Top lime 2,420 ft.; shut down 2,840 ft.; flowing 20 bbls. per hr.

Pure Oil Co.'s No. 13 Hendricks-B, NW SE SE Sec. 34, Blk. B-5 ..... Top lime 2,395 ft.; drlg. 2,397 ft.

Pure Oil Co.'s No. 14 Hendricks-B, NE SW SE Sec. 34, Blk. B-5 ..... Rig.

Pure Oil Co.'s No. 15 Hendricks-B, SE NW SE Sec. 34, Blk. B-5 ..... Material on ground.

Pure Oil Co.'s No. 16 Hendricks-B, SW NE SE Sec. 34, Blk. B-5 ..... Material on ground.

Pure Oil Co.'s No. 1 Grisham-Hunter-C ..... Top lime 2,295 ft.; shut down 2,508 ft. for orders.

Pure Oil Co.'s No. 2 Grisham-Hunter-C, SW cor. SE Sec. 45, Blk. 26 ..... Drlg. 1,235 ft.

Pure Oil Co.'s No. 3 Grisham-Hunter-C, SE cor. Sec. 45, Blk. 26 ..... Drlg. 595 ft.

Pure Oil Co.'s No. 4 Grisham-Hunter-C, NE cor. SE Sec. 45, Blk. 26 ..... Drlg. 377 ft.

Pure Oil Co.'s No. 6 Grisham-Hunter, NW SW Sec. 41, Blk. B-5 ..... Top salt 2,015 ft.; top lime 2,550 ft.; shut down 2,554 ft.

Republic Prod. Co.'s No. 1-A Grisham-Hunter-B, SW cor. E half SE Sec. 41, Blk. B-5 ..... Top salt 1,240 ft.; top lime 2,135 ft.; total depth 2,305 ft.

Republic Prod. Co.'s No. 3 Grisham-Hunter-B, NE cor. SE Sec. 41, Blk. B-5 ..... Top salt 1,380 ft.; top lime 2,340 ft.; top pay 2,929 ft.; total depth 2,951 ft.; flowed 965 bbls. first 13 hrs.

Republic Prod. Co.'s No. 2 Hendricks-A, NE E half SW Sec. 45, Blk. 26 ..... Top salt 1,240 ft... top lime 2,135 ft.; fishing 2,302 ft.

Republic Prod. Co.'s No. 3 Hendricks-A, SW NE SW Sec. 45, Blk. 26 ..... Drlg. 390 ft.

Republic Prod. Co.'s No. 4 Hendricks-A, SW cor. E half SW Sec. 45, Blk. 26 ..... Drlg. 320 ft.

Republic Prod. Co.'s No. 1 Hendricks-C, SW NE NE Sec. 42, Blk. B-5 ..... Standardizing 2,708 ft.

Republic Prod. Co.'s No. 2 Ida Hendricks-C, Sec. 42, Blk. B-5 ..... Mixing mud 1,500 ft.; lost returns.

Republic Prod. Co.'s No. 3 Hendricks-C, NW SE NE Sec. 42, Blk. B-5 ..... Location.

Roxana Pet. Corp.'s No. 4 Hendricks-B, NE cor. SW S half SE Sec. 29, Blk. B-5 ..... Top salt 1,500 ft.; total depth 2,965 ft.; straightening hole.

Roxana Pet. Corp.'s No. 5 Ida Hendricks-B, SE cor. SW S half SE Sec. 29, Blk. B-5 ..... Top salt 1,520 ft.; top lime 2,660 ft.; total depth 3,000 ft.; tearing down rotary.

Roxana Oil Corp.'s No. 6 Hendricks-B, SE cor. Sec. 29, Blk. B-6 ..... Drlg. 2,499 ft.

Roxana Pet. Corp.'s No. 8 Hendricks-C, SW cor. N half NW Sec. 29, Blk. B-5 ..... Top salt 1,555 ft.; top lime 2,615 ft.; drlg. 2,993 ft.

Roxana Pet. Corp.'s No. 4 Grisham-Hunter-D, NE cor. S half NE Sec. 41, Blk. B-5 ..... Top salt 1,230 ft.; top lime 2,266 ft.; fishing 2,795 ft.; flowing 300 bbls.

Roxana Pet. Corp.'s No. 5 Grisham-Hunter-D, SE SW NE Sec. 41, Blk. B-5 ..... Rigging up.

Roxana Pet. Corp.'s No. 6 Grisham-Hunter-D, SW SE NE Sec. 41, Blk. B-5 ..... Moving in rig.

Roxana Pet. Corp.'s No. 1 Grisham-Hunter-E ..... Coring 2,787 ft. in lime.

Roxana Pet. Corp.'s No. 1 Hendricks-F, NW cor. SW Sec. 46, Blk. 26 ..... Drlg. 650 ft.

Roxana Pet. Corp.'s No. 2 Hendricks-F, SW cor. SW Sec. 46, Blk. 26 ..... Drlg. 238 ft.

Roxana Pet. Corp.'s and Llano Oil Co.'s No. 2 W. F. Scarborough, SW cor. NE Sec. 1, Blk. C-22, School Land ..... Top salt 1,120 ft.; top pay 3,135 ft.; total depth 3,306 ft.; running rods and tubing to pump.

Roxana Pet. Corp.'s No. 3 Hendricks-A, Sec. 45, Blk. 26 ..... Location.

Sheldon & Burgess No. 1 Ida Hendricks, SW cor. SE Sec. 28, Blk. B-5 (10-a. tract) ..... Top salt 1,260 ft.; top pay 2,605 ft.; top pay 2,719 ft.; total depth 3,243 ft.; shut down.

Skelly Oil Co.'s No. 1 Hendricks, NW cor. W half NE Sec. 40, Blk. 26 ..... Total depth 2,312 ft.; moving back boilers.

Skelly Oil Co.'s No. 2 Hendricks, 330 ft. W, 440 ft. S NE cor. W half NE Sec. 40, Blk. 26 ..... Rig.

Skelly Oil Co.'s No. 3 Hendricks, SE cor. W half NE Sec. 40, Blk. 26 ..... Location.

Skelly Oil Co.'s No. 4 Hendricks, NE cor. W half SE Sec. 40, Blk. 26 ..... Location.

Skelly Oil Co.'s No. 5 Hendricks, 450 ft. N and 330 ft. E of SW cor. W half SE Sec. 40, Blk. 26 ..... Location.

Skelly Oil Co.'s No. 1 Hendricks-B, SW cor. E half NW Sec. 39, Blk. 26 ..... Rig.

Southern C. O. P. Co.'s No. 2 T-89 Grisham-Hunter-A, Sec. 35, Blk. B-5 ..... Top salt 1,189 ft.; top lime 2,309 ft.; drlg. 2,562 ft.

Southern C. O. P. Co.'s No. 3 T-89-A Grisham-Hunter-A ..... Top salt 1,072 ft.; top lime 2,352 ft.; drlg. 2,889 ft.; spraying oil.

Southern C. O. P. Co.'s No. 4 T-89-A Grisham-Hunter-A ..... Rig.

Southern C. O. P. Co.'s No. 1 Ida Hendricks, 3-T-67-A, C SW NW NE Sec. 4, Blk. B-12, elev. 2,784 ft. ..... Top lime 2,638 ft.; top salt 1,525 ft.; drlg. 2,957 ft.

Southern C. O. P. Co.'s No. 2 T-67-A, NE SE Sec. 42, Blk. B-5 ..... Top salt 1,525 ft.; top lime 2,620 ft.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-67-A, NE cor. SE SE Sec. 42, Blk. B-5 ..... Location.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-67-A, SE cor. NE Sec. 42, Blk. B-5 ..... Location.

Southern C. O. P. Co.'s No. 2 Ida Hendricks 3-T-67-A ..... Top salt 1,525 ft.; top lime 2,650 ft.; reaming 3,032 ft.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-67-3-A, Sec. 4, Blk. B-12 ..... Reaming 2,637 ft.

Southern C. O. P. Co.'s No. 1 Ida Hendricks, T-67-E, SE NE Sec. 42, Blk. B-5 ..... Fishing for tools 2,600 ft.

Southern C. O. P. Co.'s No. 2 Ida Hendricks, T-67-E, NE cor. SE NE Sec. 42, Blk. B-5 ..... Drlg. 2,138 ft.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-67-E, SE cor. NE NE Sec. 42, Blk. B-5 ..... Location.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-67-E, NE cor. Sec. 42, Blk. B-5 ..... Location.

Southern C. O. P. Co.'s No. 2 T-67, Ida Hendricks-F ..... Top salt 1,715 ft.; drlg. 2,557 ft.

Southern C. O. P. Co.'s No. 5 T-67 Ida Hendricks-C ..... Top pay 3,890 ft.; drlg. 3,026 ft.

Southern C. O. P. Co.'s No. 3 Hendricks, T-67-3B, NE NW SW Sec. 33, Blk. 26 ..... Location.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-67-B, SE NE SE Sec. 44, Blk. 26 ..... Location.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-67-B, NE SE SE Sec. 44, Blk. 26 ..... Location.

Southern C. O. P. Co.'s No. 5 Ida Hendricks, T-67-B, SE cor. SE Sec. 44, Blk. 26 ..... Location.

Southern C. O. P. Co.'s No. 1 T-88 Ida Hendricks-C, NW cor. Sec. 28, Blk. B-5 ..... 6,000,000 ft. gas 2,665 gt.; top pay 2,833-96 ft.; 500 ft. oil; fishing job 2,906 ft.; shut down for orders.

Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-88-C ..... Top salt 1,390 ft.; top lime 2,535 ft.; cleaning out.

Southern C. O. P. Co.'s No. 1 Ida Hendricks, T-88-G, SW SE Sec. 28, Blk. B-5 ..... Top lime 2,612 ft.; fishing 2,695 ft.

Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-88-H, SW NW SW Sec. 28, Blk. B-5 ..... Top salt 1,300 ft.; top lime 2,695 ft.; drlg. 2,782 ft.

Southern C. O. P. Co.'s No. 2 Ida Hendricks, T-88-I, NE SE E half NE Sec. 30, Blk. B-5 ..... Location.

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Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-88-A, SE NE SE Sec. 44, Blk. 26 ..... Rig.
Southern C. O. P. Co.'s No. 5 Ida Hendricks, T-88-A, NE cor. Sec. 44, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 2 Ida Hendricks, T-88-I, SE NE E half NE Sec. 30, Blk. B-5 ..... Drlg. 1,159 ft.
Southern C. O. P. Co.'s No. 3 Ida Hendricks, T-88-A, NE SE NE Sec. 44, Blk. 26 ..... Drlg. 1,625 ft.
Southern C. O. P. Co.'s No. 4 Ida Hendricks, T-88-I, SE cor. E half NE Sec. 30, Blk. B-5 ..... Location.
Southern C. O. P. Co.'s No. 1 T. G. Hendricks, T-88-K, NE cor. Sec. 41, Blk. 26 ..... Top salt 1,706 ft.; drlg. 2,790 ft.
Southern C. O. P. Co.'s No. 2 T. G. Hendricks, T-88-K, SE NE SE Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 3 T. G. Hendricks, T-88-K, NE SE NE Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 4 T. G. Hendricks, T-88-K, SE SE NE Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 5 T. G. Hendricks, T-88-K, NE SE SE Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 6 T. G. Hendricks, T-88-K, SE NE SE Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 7 T. G. Hendricks, T-88-K, NE SE SE Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 8 T. G. Hendricks, T-88-K, SE cor. SE Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 1 Hendricks, T-88-M, SW cor. SE Sec. 33, Blk. 26 ..... Drlg. 2,320 ft.
Southern C. O. P. Co.'s No. 2 Hendricks, T-88-M, NW SW SE Sec. 33, Blk. 26 ..... Shut down 1,031 ft.
Southern C. O. P. Co.'s No. 3 Hendricks, T-88-M, SE NE SW Sec. 33, Blk. 26 ..... Drlg. 1,340 ft.
Southern C. O. P. Co.'s No. 4 Hendricks, T-88-M, SE NW SW Sec. 33, Blk. 26 ..... Top salt 1,630 ft.; drlg. 2,410 ft.
Southern C. O. P. Co.'s No. 5 Hendricks, T-88-M, SW SE SE Sec. 33, Blk. 26 ..... Rigging up.
Southern C. O. P. Co.'s No. 6 Hendricks, T-88-M, SE SW NW Sec. 33, Blk. 26 ..... Location.
Southern C. O. P. C.'s No. 7 Hendricks, T-88-M, NE SW NE Sec. 33, Blk. 26 ..... Drlg. 175 ft.
Southern C. O. P. Co.'s No. 1 E. G. Hutchings, T-90, NE cor. E half SE Sec. 47, Blk. 26, elev. 2,835 ft. ..... Top salt 935 ft.; top lime 2,340 ft.; fishing for stem 2,705 ft.
Southern C. O. P. Co.'s No. 1 Ida Hendricks, T-264, SE NE SE Sec. 5, Blk. B-13 ..... Location.
Southern C. O. P. Co.'s No. 3 Hendricks, T-88-A, 440 ft. S. 330 ft. W NE cor. Sec. 44, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 4 Hendricks, T-88-A, Sec. 44, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 4 Hendricks, T-88-H, SW cor. Sec. 28, Blk. B-5 ..... Location.
Southern C. O. P. Co.'s No. 2 Hendricks, T-88-K, Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 3 Hendricks, T-88-K, Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 4 Hendricks, T-88-K, Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 5 Hendricks, T-88-K, Sec. 41, Blk. 26 ..... Location.
Southern C. O. P. Co.'s No. 6 Hendricks, T-88-K, Sec. 41, Blk. 26 ..... Location.
Texon O. & L. Co.'s No. 3 Grisham-Hunter-A, NW cor. W half SE Sec. 41, Blk. B-5 ..... Top salt 1,450 ft.; top lime 2,324 ft.; fishing 2,667 ft.
Texon O. & L. Co.'s No. 4 Grisham-Hunter-A, NE cor. W half SE Sec. 41, Blk. B-5 ..... Setting 12-in. casing 390 ft.
Texon O. & L. Co.'s No. 3 Hendricks-B, SE W half SW Sec. 46, Blk. 26 ..... Top salt 1,485 ft.; cleaning out 2,995 ft.
Winkler O. P. Corp.'s No. 1 T. G. Hendricks, NW cor. Sec. 33, Blk. 26 ..... Derrick.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 39)

Donley Gray Oil Co.'s No. 1 J. W. Gordon, Sec. 79, Blk. 3. Wtr., 3,380 ft. and 3,430 ft. show oil; H.F.W., 3,650 ft; T.D., 3,870 ft; U.R. 6-in. csg., 3,852 ft; drlg., 4,160 ft.
Delmar Oil Co.'s No. 1 F. Foster, NW cor. SW, Sec. 55, Blk. B-2, H.&G.N. Sur. ..... Drlg., 1,650 ft.
Edwards et als' No. 1 E. J. Case, NE cor. Sec. 183, Blk. B-2, H.&G.N. Sur. ..... 70,000,000 ft. gas, 3,513-3,630 ft; top G.W., 3,034 ft; 2,000 ft. oil in hole; junked hole, 3,252 ft. and S.D.
Empire G. & F. Co.'s No. 1 A. J. Dauer, NW SE SE, Sec. 236, Blk. B-2, H.&G.N. Sur. ..... Little spray oil, 3,010 ft; T.D., 3,013 ft.
Empire G. & F. Co.'s No. 1 Holmes, C NE, Sec. 179, Blk. 3, I.&G.N. Sur. ..... Drlg., 600 ft.
Ealick et als' No. 1 Mrs. J. A. Hopkins, NW cor. W 80 acres of SW¼, Sec. 84 H.&T.C. Sur., Blk. B-2 ..... Set 8-in., 2,208 ft; 6,000,000 ft. gas, 2,654-2,795 ft; cased off; show oil, 3,042-45 ft; 3,000,000 ft. gas, 3,050 ft; straightening hole, 3,061 ft.
Gibson Oil Corp.'s No. 9 J. B. Bowers, NE cor. Sec. 92, Blk. B-2, H.&G.W. Sur. ..... Fish. for 5-in. csg., 2,733 ft.
Gibson Oil Co.'s No. 1 G. Pierce, SE cor. Sec. 149, Blk. B-2, H.&G.N. Sur. ..... Rig.
Gulf Prod. Co.'s No. 1 M. Davidson-A, 330 ft. from S and E lines of NW cor. E half NW, Sec. 87, Blk. B-2, H.&G.N. Sur. ..... C.O., 3,060 ft.
Hardendorf Drlg. Co.'s No. 1 G. A. Henderson, NE E half NE, Sec. 47, Blk. 25, H.&G.N. Sur. ..... Drlg., 1,075 ft.
Hickory O. & G. Co.'s No. 1 Lester, SE cor. NW NW, Sec. 1, Blk. 1, A.C.H.&B. Sur. ..... Drlg., 1,990 ft.
Holbrook et als' No. 1 J. E. Williams, SW cor. 40 acres, NE, Sec. 15, Blk. 1, A.C.H.&B. Sur. ..... Location.
Lefors Pet. Co.'s No. 2 J. M. Shaw, NW cor. T. Leach Sur. ..... Drlg. lime, 2,915 ft.
McElroy Oil Co.'s No. 1 M. B. Davis, NE cor. S 240 acres of E half, Sec. 12, Blk. 1, A.C.H.&B. Sur. .. Cmtd. 10-in., 2,080 ft.
Majestic Oil Co.'s No. 6 J. B. Bowers, Sec. 89, Blk. 2-B ..... S.O., 3,700 ft; show wtr., 3,450-55 ft; drlg., 4,040 ft.
Magnolia Pet. Co.'s No. 2 J. B. Bowers, Sec. 63, Blk. B-2, H.&G.N. Sur. ..... Bldg. derrick.
Magnolia Pet. Co.'s No. 1 E. R. Eakins, SW cor. NW, Sec. 56, Blk. 25, H.&G.N. Sur. ..... Location.
Magnolia Pet. Co.'s No. 1 W. Harrah, NW cor. NW, Sec. 159, Blk. 3, H.&G.N. Sur. ..... Drlg., 500 ft.
Meade Bros.' No. 1 B. E. Fenley, SW NW SW of B. E. Chaney Sur. ..... Cellar.
Operators Oil Co.'s No. 3 W. Jackson, NE NW N half NE, Sec. 88, Blk. B-2, H.&G.N. Sur. ..... Location.
Osborn et als' No. 1 E. E. Barrett, SE cor. NE, Sec. 111, Blk. 3, I.&G.N. Sur. ..... Straightening crooked hole, 2,245 ft.
Osborne et als' No. 1 J. S. Morse, SW cor. SE, Sec. 1, Blk. 26, H.&G.N. Sur. ..... Spudding.
Parker et als' No. 1 Mrs. M. Parker, 990 ft. S and W NE cor. S 360 acres, Sec. 9, E. N. Lynch Sur. ..... Cellar.
Parker et als' No. 2 Mrs. M. Parker, 2,310 ft. from N line, 990 ft. from E line of S 360 acres, Sec. 9, N. Lynch Sur. ..... Bldg. rig.
Partan et als' No. 1 J. S. Morse, NW cor. N half NE, Sec. 5, Blk. 26, H.&G.N. Sur. ..... Rig.
Pampa Oil Co.'s No. 1 W. R. Campbell, Sec. 90, Blk. 3. 700 ft. wtr., 3,430 ft; S.D., 3,432 ft.
Phillips Pet. Co.'s No. 4 W. Jackson, NE cor. S half NE, Sec. 88, Blk. B-2, H.&G.N. Sur. ..... Derrick.
Phillips Pet. Co.'s No. 3 Jackson-Riley, Sec. 88, Blk. B-2, H.&G.N. Sur. ..... Recmntd. 12¼-in., 1,027 ft; 6,000,000 ft. gas, 2,590-2,635 ft; cmt. 8¼-in. csg., 2,857 ft; 300 ft. oil, 3,184 ft; considerable wtr., 3,325-29 ft; S.D.
Phillips Pet. Co.'s No. 4 Jackson-Riley, SE cor. W half SW, Sec. 88, Blk. B-2 ..... U.R. 10-in., 2,160 ft.
Phillips Pet. Co.'s No. 1 C. Reiger-Davidson, NW cor. Sec. 87, Blk. B-2, H.&G.N. Sur. ..... Drlg., 2,050 ft.
Plains Drlg. Co. and Ray's No. 1 C. Chapman, SE cor. SW NW, Sec. 50, Blk. A-9, H.&G.N. Sur. ..... Hole full oil, 2,775-77 ft; G.W; S. D. for storage.
Plains Drlg. Co.'s No. 1-B Chapman, NE cor. E half NE, Sec. 20, Blk. 1, A.C.H.&B. Sur. ..... Drlg., 2,415 ft.
Plains Drlg. Co.'s No. 1-C Chapman, 990 ft. N and 330 ft. W SE, Sec. 24, J. Davidson Sur. ..... Drlg., 2,850 ft.
Prairie O. & G. Co.'s No. 1 W. Harrah, NE cor. N 80 acres, E 240 acres, Sec. 163, Blk. 3, H.&G.N. Sur. .. Drlg., 340 ft.
Prairie O. & G. Co.'s No. 1 Worley & Reynolds, NE cor. SW NE, Sec. 61, Blk. 3, I.&G.N. Sur. ..... Location.
Purple Sage Oil Co.'s No. 2 E. B. Johnson ..... 2,000,000 ft. gas; 200 ft. oil; fish., 2,870 ft.
Ray & Massie's No. 2 A. Chapman, SE cor. SW, Sec. 51, Blk. 25 ..... Drlg., 2,385 ft.
Scott & Travis' No. 1 A. Chapman, 990 ft. N and W of SE cor. N half SW, Sec. 70, Blk. 25, H.&G.N. Sur. .. Drlg., 2,460 ft.
St. Clair Oil Co.'s No. 1 C. H. Rowe ..... Spudded and S.D.
St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor. Sec. 35, W. R. Lee Sur. ..... Spudded and S.D.
Shamrock Oil Co.'s No. 1 Chapman, NE E half SW, Sec. 50, Blk. 25 ..... 10,000,000 ft. gas, 2,695-2,715 ft; show oil, 2,763-73 ft; 1 bailer wtr. and little oil per hr; T.D., 3,140 ft; P.B., 2,800 ft.
Shamrock Oil Co.'s No. 2 A. Chapman, NW cor. NE, Sec. 50, Blk. 25, H.&G.N. Sur. ..... Drlg., 1,970 ft.
Spartan Oil Co.'s No. 1 J. Hopkins ..... Drlg. lime, 2,590 ft.
Sullivan et als' No. 1 S. A. Cobb, NE cor. NW, Sec. 64, Blk. 25, H.&G.N. Sur. ..... Sprayed oil from 2,516-22 ft; G. W.; 44.5 gravity oil; S.D. for storage.
Sullivan Oil Co. et als' No. 1 M. Huselby, NW cor. E half NW, Sec. 55, Blk. 25, H.&G.N. Sur. ..... Location.
Staggers Oil Co.'s (was Ruby Oil Co.'s) No. 1 B. F. Tally. T.D., 635 ft; S.D.
The Texas Co.'s No. 3 J. B. Bowers ..... C.O., 2,830 ft.
The Texas Co.'s No. 1 M. B. Davis, SE cor. NE, Sec. 3, Blk. 1, A.C.H.&B. Sur. ..... Spray., 40 bbls. daily from 2,715-19 ft; T.D., 3,167 ft.
The Texas Co.'s No. 2 C. Thut, SE NW SE, Sec. 1, H.&G.N. Sur. ..... Drlg., 1,670 ft.
The Texas Co.'s No. 1 J. E. Williams, NW cor. NE NW, Sec. 7, Blk. 1, A.C.H.&B. Sur. ..... 14,000,000 ft. gas, 2,557-62 ft.
The Texas Co.'s No. 2 Williams, C NW, Sec. 6, Blk. 1, A.C.H.&B. Sur. ..... Drlg., 1,000 ft.
Tobias Oil Corp.'s No. 1 W. H. Taylor, C NE, Sec. 10, Blk. B-2, (formerly Smallwood et als') ..... T.S., 765 ft; 2,000,000 ft gas, 2,405-80 ft; drlg., 2,480 ft.

HALE COUNTY

Bailey & Young's No. 1 Thomas, Sec. 1, Blk. J.K.L. ..... S.D., 175 ft.
Donnell Pet. Co.'s No. 2 Mullican, NW cor. Sec. 66, Blk. A-3, L&S.B. Sur. ..... Top pay in sandy shale, 495 ft; ⅛ bailer oil and 3 bailers wtr. per day; S.D., 620 ft.
Donnell Pet. Co.'s No. 1 Mullican, C, Sec. 21, Blk. B, R. M. Thompson Sur. ..... 200 ft. fluid in hole from 407-14 ft; S.D.
Expltn. Co.'s No. 1 Goodman ..... S.D., 350 ft.
A. S. Mimm's No. 1 W. A. Ritcher, 700 ft. from E line and 1,200 ft. from S line, Sec. 17, Blk. X, John Glynn Sur. ..... S.D., 1,140 ft.
Tolbert & Simms' (was Gouldy & Stone's) No. 1 Kitteral, SE cor. NW, Sec. 65, Blk. A-3, G.C.&S.F. Sur. .. S.D., 485 ft.
L. R. Travis' No. 1 J. S. Morse, NE cor. N half SW, Sec. 3, Blk. 26, H.&G.N. Sur. ..... Location.
Travis et als' No. 1 A. Chapman, SW cor. Sec. 10, Blk. 26, H.&G.N. Sur. ..... Location.
Wilcox-Pampa Oil Co.'s No. 25 Worley & Reynolds, SE cor. NW NE, Sec. 61, Blk. 3, I.&G.N. Sur. ..... Rig on ground.

HALL COUNTY

Briscoe Oil Assn.'s (was Seifert et als') No. 1 Owens, C NE, Sec. 179, Blk. S-5, Dennison & Pacific Sur. .. Spudded and S.D.

HANSFORD COUNTY

Caldwell et als' No. 1 J. Adriance est. ..... Fish. for bailer, 2,050 ft.
Oklavania et als' No. 1 Coots, Sec. 13, Blk. 45, H.&T. C. Sur. ..... Run. 6-in; 900 ft. wtr., 3,940 ft; S.D., 3,350 ft.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood, 320 ft from N and W lies, League 7, Wilbarger Co. school lands; elevation 3,363 ft; contract depth, 5,000 ft. ..... S.D., 1,455 ft. to install rotary.

HARTLEY COUNTY

Amarillo Oil Co.'s No. 7 Lee Bivins "A," C NE, Sec. 7, Blk. 25, E.L.R.R. Sur. ..... Rig.
Amarillo Oil Co.'s No. 8 Lee Bivins "A," 100 ft. E of CWL, Sec. 4, Blk. 25, E.L.R.R. Sur. ..... Rig.
Amarillo Oil Co.'s No. 9 Lee Bivins "A," C NW, Sec. 6, Blk. 21 ..... Rig.

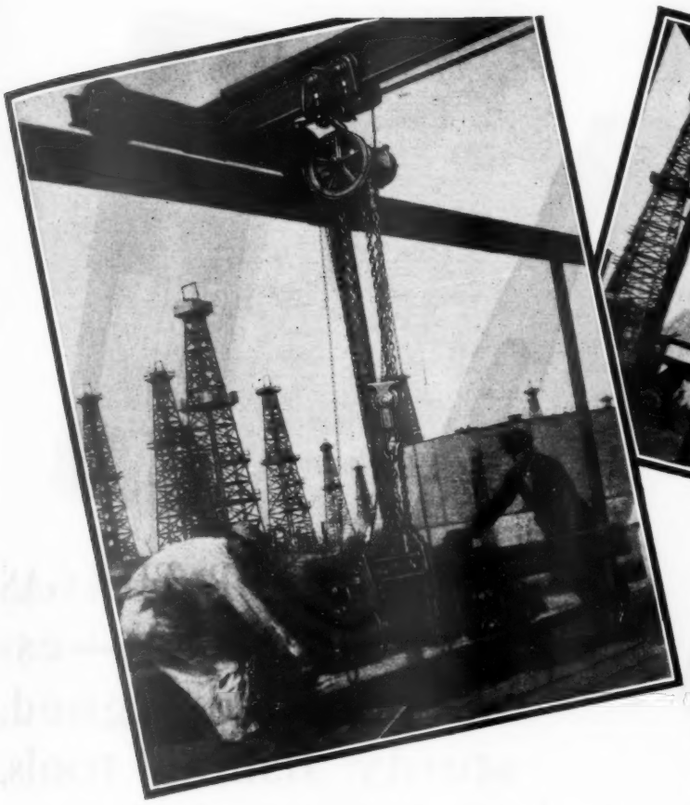
HUTCHINSON COUNTY

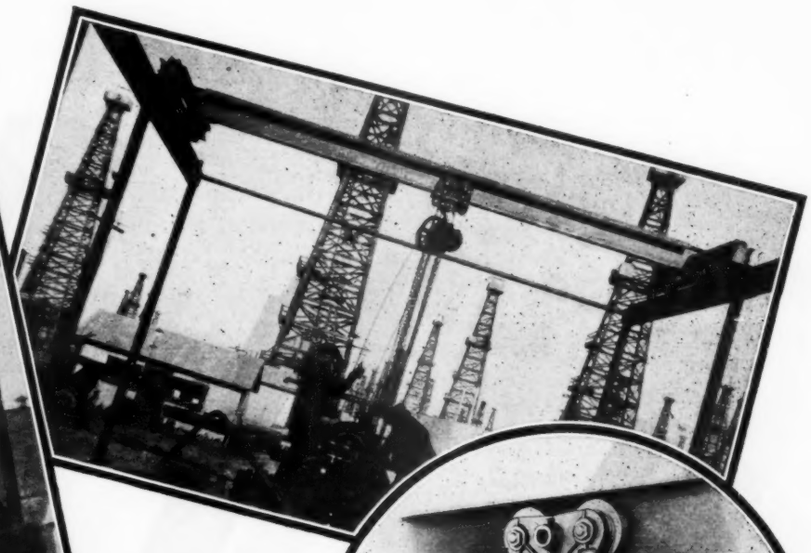
Alamoso Oil Co.'s No. 2 J. M. Sanford, Sec. 83, Blk. 46, H.&T.C. Sur. ..... Drlg., 2,340 ft.
R. G. Barnum et als' No. 1 Garland Sanford, Sec. 75, Blk. 46 ..... S.D., 820 ft. for pipe.
Barnum & Delmar's No. 1 Johnson Bros., NW cor. E half NW, Sec. 37, Blk. Y, A.&B. Sur. ..... Drlg., 492 ft.
Beam et als' No. 1 Cockrell, Sec. 3, Blk. 23 ..... S.D., 405 ft. for orders.
Big Coach Oil Co.'s No. 1 Dunnaway, Sec. 5, Blk. Y. ... S.D., 750 ft.
Conklin et als' No. 1 Johnson, Sec. 1, Blk. X03, H.&O. B. Sur. ..... S.D., 600 ft.
Friedman et als' No. 1 J. O. Bost, SW cor. Sec. 9, Blk. Y-2, T.T.R.R. Sur. ..... U.R. csg., 560 ft.
Gulf Prod. Co.'s No. 40, C. L. Dial et al, 925 ft. N, 462 ft. E SW cor. John W. King Sur. ..... Drlg. lime, 1,640 ft.
Gulf Prod. Co.'s No. 41 C. L. Dial et al, Sec. 130, Blk. Z, E.L.&R.R. Sur. ..... Drlg. salt, 1,660 ft.
Harris et als' No. 1 J. Q. Bost, Sec. 10, Blk. Y-2, T.T. R.R. Sur. ..... 90,000,000 ft. gas; drlg., 2,895 ft.
Holmes & Quinn's No. 1 J. K. Quinn, SW cor. Sec. 9, Blk. 3, B.S.&F. Sur. ..... Small show oil, 3,010 ft. in lime; T.D., 3,142 ft; shot with 300 qts., 3,052-3,136 ft. in lime; swbd. 10 bbls; C.O.
McKinney Gas Co.'s No. 1 F. P. Works, SW cor. Sec. 5, Blk. Y-2, T.T.R.R. Sur. ..... Fish., 1,725 ft.
Oil Operators Trust Co. and Marland's No. 2 J. M. Stanford-B, Sec. 52, Blk. 46, H.&T.C. Sur. ..... Rig.
Phillips Pet. Co.'s No. 2 Garland, Sec. 77, Blk. 46 ..... Drlg., 1,310 ft.
Phillips Pet. Co.'s No. 13 Elva-Whittenburg, E. Tomlinson Sur. ..... T.A., 4,445 ft.
Phillips Pet. Co.'s No. 2 Chap, NE cor. E 80 acres of the S 160 acres of Sec. 75, Blk. 46 ..... Drlg., 1,685 ft.
Phillips Pet. Co.'s No. 2 Land, NW cor. of E 40 acres, N 80 acres of S 320 acres, Sec. 83, Blk. 46 ..... Drlg., 1,493 ft.
Phillips Pet. Co.'s No. 5 Johnson Bros.-Dorsett, Sec. 64, Blk. 46, H.&T.C. Sur. ..... Cellar.
Phillips Pet. Co.'s No. 6 Johnson Bros.-Dorsett, Sec. 64, Blk. 46, H.&T.C. Sur. ..... Cellar.
Phillips Pet. Co.'s No. 13 J. A. Whittenburg, Sec. 63, Blk. 46, H.&T.C. Sur. ..... Location.
Phillips Pet. Co.'s No. 14 J. A. Whittenburg, Sec. 63, Blk. 46, H.&T.C. Sur. ..... Bldg. rig.
Skelly Oil Co.'s No. 2 Armstrong & Byrd ..... Set 12-in. csg., 1,425 ft; cmtd. 10-in. csg., 1,553 ft; drlg., 2,900 ft; small show gas, 2,815-25 ft; 9,000,000 ft. gas, 3,015-50 ft; set 6-in., 3,272 ft.
Skyrocket Oil Co.'s No. , Mrs. R. A. Jameson ..... 300 ft. oil in hole from 3,146 ft; drilled to 3,180 ft; shot with 60 qts., 3,125-60 ft; bridged; no increase in oil after deepening; pumped 25 bbls. in 5 hrs; drlg., 3,183 ft.
Timms & Dietsch's No. 1 C. R. Garner, NE cor. W 80 A of SE, Sec. 134, Blk. 4, I.&G.N. Sur. ..... Spudding.
Wendell et als' No. 1 Johnson Bros., Sec. 1, Blk. X03 ... Set 10-in. csg., 2,035 ft. and S.D; rig burned.
Winrod Oil Co.'s No. 1 E. Cooper, Sec. 3, Blk. 9, I.& G.N. Sur. ..... Spudding.

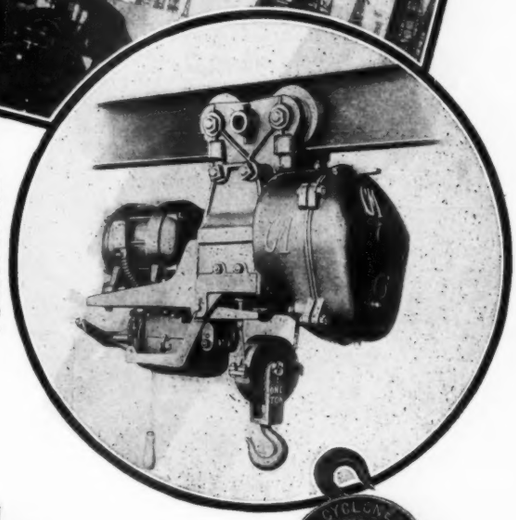
KING COUNTY

Humble O. & R. Co.'s No. 1 Pitchfork, Sec. 171, Blk. A-96, John H. Gibson Sur. ..... Hole full wtr., 3,375 ft; U.R. 6-in csg., 4,035 ft.

(Continued on Page 168)







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HINDERLITER

Great Expansion in German Demand

Low Gasoline Prices Have Stimulated Motorization. Remarkable Increase in Two Years. Quick Growth Foreseen

By Special Correspondent

BERLIN, Germany, Apr. 20.—Developments in the oil industry of the United States in the past few years have been followed in Germany with active attention. The reason for this interest can be found in the growing importance attributed to a regular supply of first-class quality petroleum products for the German market, and particularly the effect which the price development in the international petroleum has had upon the promotion markets of automobile development in Germany. The lower prices for benzine and oils have contributed very greatly to make automobiling popular in Germany.

The German retail price for benzine has fallen within 12 months from an average of 33 pfennig (8 cents) per liter (slightly more than a quart) to 23 pfennig (5½ cents) and even at that certain groups of buyers were able to secure still further price reductions. The Russian product has for several months acted as a strong competitor.

Consumption by Vehicle

It is important to view in figures the advantages which arose in the German market within one year from the international petroleum competition so far as automobiling is concerned. On the first of July, 1927 there were in use in Germany 267,000 passenger cars, 101,000 trucks and 339,000 motorcycles. According to official statements of the German statistical bureau the fuel consumption of the different kinds of motor vehicles reflects itself in the following figures:

	Average Horsepower		Fuel Consumption per 100 Kilometers (in liters)		Average Daily Trips in Kilometers		Use of Vehicle, Days per Annum	
Motorcycles		to 5		5		15		250
Passenger cars	8		15		40		250	
Trucks	20		30		40		250	

It should be stated that all these figures are fixed exceedingly low and that according to practical experience the number of running days should be 300 instead of 250 and the number of kilometers per day also should be at least 20 or 30 per cent more. But even if we recognize the lower figures as authoritative and base our calculations upon them we obtain, because the effective numbers of motor vehicles on July 1, 1927, have to be considered as an average for the whole year of 1927, the following computation of yearly consumption of operating products:

	Liters
339,000 motorcycles, yearly consumption	63,600,000
267,000 passenger cars and buses, yearly consumption	400,500,000
101,000 trucks, yearly consumption	303,000,000
Total	767,100,000

The entire yearly production of oil in Germany being only about 700,000 bbls. (in round numbers 115,000,000 liters), it is evident that the biggest part of German consumption of benzine must be supplied by importation of foreign products. In this manner the foreign oil industries, and especially those of the United States, have thrown into the lap of the German automobilism in the course of a single year a reduction of approximately 80,000,000 marks alone on benzine. If we take further into account the consumption of other products like motor oil, lubricating oils and greases then we surely could figure on a yearly saving of at least 150,000,000 marks. Therefore, it is easily comprehensible that German interests are following with the keenest attention the developments in the rate war between the great groups of the oil industry and the price conditions of the international markets.

COMPETITION KEEN IN GERMAN PETROLEUM MARKET

The I. G. Farbenindustrie is thoroughly alive to the possibilities of the German market for oil and the value to Germany's trade balance of the production of synthetic oils from German coal, according to United States Consul H. C. Claiborne at Frankfort on the Main. Competition, however, promises to remain keen in the German market, accounting, no doubt, for the establishment of the Spindolin Gesellschaft M. b. H. in Germany, which is stated to be a subsidiary of an important American independent oil company. Large American and Anglo-Dutch concerns are at present very active in the German market, which the Germans hope eventually to supply in large measure from synthetic fuels and leave the diminishing balances, necessarily from foreign sources, to the rival groups struggling for ascendancy. In London the Anglo-Cumberland Oil Co. was founded recently and it is stated that this company intends drilling for oil in the province of Hanover, Germany, and is about to acquire land in the neighborhood of Eltze in that province, where operations are to be started.

Other interesting developments included the foundation of the "Derop" or Deutsche Vertriebs-Gesellschaft fur Russische Olprodukte A. G., for the sale of Russian petroleum products in Germany. This company is closely associated with the Erolindustrie A. G., which has increased its capital. An important American company operating in Germany has announced the doubling of its capital.

Germany, which itself now maintains a strongly developed and consolidated automobile industry, has been only a comparatively short time "discovered" as a petroleum market of the highest order. One observes in the streets of the cities of our country quite a number of foreign automobiles; vehicles of French, Italian, Belgian, English and American origin, which were imported partly as finished products and partly, on account of import tariffs, assembled as semiproducts. Especially the well-known American cars like Chrysler, Chevrolet, Nash, Chandler, Studebaker, Ford, Packard, Auburn, Oakland, Willys-Knight, Essex, etc., can be observed more and more gradually in absolute numbers seem to be gaining a lead over other foreign products. The sales prices of these classes of cars maintain about the same standards as German manufacturers so that up to now unnecessary price wars could be prevented. It should be welcomed in the interest of a sound development of the German automobile market that all parties concerned in the future should follow a peaceful price policy.

Such a sensible sales policy, on account of the potential capacity of the German market to absorb automotive products would turn out permanently to be the only right course because only in that way can the German public, without unhealthy haste and agitation, become acquainted with the advantages of a thorough motorizing. Taking the different points of view into consideration an understanding between the American and the German automobile industry about the minimal rules of the sales policy should be recommended.

An Economic Necessity

The public opinion in Germany knows that an extensive mechanizing of the traffic on the public roads is indispensible for the increase and speeding up of the economic system. It recognizes furthermore that the motorization of traffic on an extensive scale is necessary if Germany, in the international competition of the great countries on an economic basis, shall not be overtaken. The motorization of our country will extend, until it arrives at a highest point, over several years and make necessary the greatest exertion of our involved industries. The quality of the German automotive products is known to all experts as first-class and only this kind of products from abroad will be considered in Germany and then together with the German products they will guarantee the supply of the German market.

The conditions for the automobilization of Germany are exceedingly favorable. The population, at the present about 63,000,000 people, increases every year through immigration and surplus of births about 750,000. In contrast to these figures the present number of automobiles is strikingly small, although for the past two years a distinctive increase can be observed. The figures for the past two years is shown in the accompanying table.

GROWTH OF REGISTRATIONS

	Number July 1, 1925	Number July 1, 1926	Number July 1, 1927
Passenger Automobiles—			
Up to 6 horsepower	61,021	79,514	122,731
From 6 up to 10 horsepower	63,415	73,020	82,169
From 10 up to 14 horsepower	24,560	27,217	33,393
From 14 up to 18 horsepower	14,075	14,983	16,112
More than 18 horsepower	8,374	6,667	6,737
Total	171,445	201,401	261,142
Motor buses	3,220	5,086	6,632
Motor Trucks—			
Up to 1,000 kg. chassis weight	8,486	9,736	12,834
1,000 up to 2,000 kg. chassis weight	17,900	23,472	30,964
2,000 up to 3,000 kg. chassis weight	8,625	9,506	10,101
3,000 up to 4,000 kg. chassis weight	19,649	20,010	19,029
More than 4,000 kg. chassis weight	25,703	27,305	28,041
Total	80,362	90,029	100,969
Total cars, buses and trucks	255,028	296,516	368,743
Tractors	7,732	10,263	13,706
Motorcycles	141,360	263,060	339,000

For the year 1928 new records without doubt will be established, as not only our own German manufacturers are making the greatest efforts for producing more cars but foreign manufacturers also for the first time appear with a concentrated, systematical canvassing of the German market. Statisticians count upon an increase in motorcycles of at least 100,000 units, in passenger cars of more than 100,000 and in trucks from 15,000 to 20,000 units so that at the end of 1928 for the first time in our country a total of almost 1,000,000 motor units should be reached. The next year, without doubt, will bring a further increase. With normal economical development Germany readily can absorb about 4,000,000 or 5,000,000 motor units. It can be assumed that the next few years will bring an increase in the effective number of automobiles on an average of 200,000 cars per annum. It should not be overlooked that only the very difficult economical conditions of the past decade suppressed a very important necessity and prevented its effective development. Germany in a commercial geographic sense is the center of an immense continent, it is the ideal place of exchange for all European goods from and in all directions of the compass. From the French West Coast into the heart of Russia, from Scandinavia to Africa the most direct and shortest way leads through our country. These facts directly predestinate Germany as the automobile traffic center of Europe and promise it a motor development, with the exception of the United States, without a parallel.

These prospects, without doubt, are also of eminent significance for the American oil industry. The 16,000 filling stations, at the disposition of Germany at the present, within a few years will be multiplied immensely. All German oil corporations and foreign importers will take care of the extension of this network of stations over the whole country in order to keep step with the ascent of the German automobile development which from year to year will without great effort absorb increasing quantities of oils and oil products of all kinds.

Gasoline Price Agreement

For some months the German market for gasoline and benzol has had a severe price fight caused by the fact that the German subsidiaries of the Russian Naphtha Syndicate were selling gasoline at the filling stations at a retail price 1 pfennig below the price asked by the subsidiaries of the Royal Dutch Shell and an American company. An agreement has now been reached by which the Russian syndicate is quoting the same retail price as the other companies and also agrees with them on the granting of rebates. The general agreement also includes the price for benzol. In order to meet the competition of the gasoline dealers Benzolverband Bochum cut down retail prices of benzol to 27 pfennigs per liter, but it has now a uniform quotation of 34 pfennigs. Further details of this agreement are not available.

There has been a recent change in the composition of Monopolin, the motor fuel manufactured by the German alcohol monopoly to 30 parts of alcohol and 70 parts of benzine. Benzol is not being used any more as it is necessary only when alcohol of a purity of 96 per cent is used. Reichskraftstoff G. m. b. M., sole distributor of Monopolin, is putting up a great number of filling stations throughout Germany according to the report of Commercial Attache F. W. Allport at Berlin.

BUDA

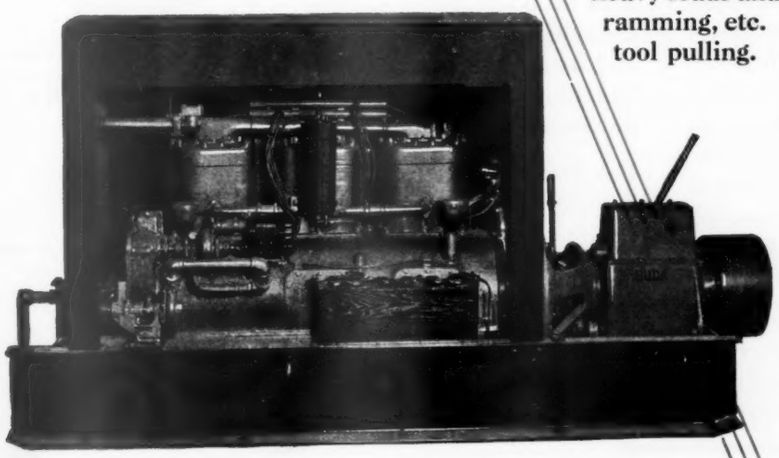
Drilling Engine and Reverse Clutch

—for Cable or Rotary drilling—imparting to this work a *new* simplicity, ease, economy and absolute dependability. The BUDA outfit has two outstanding advantages: (1)—it will do work that cannot be done with the ordinary gas or gasoline drilling rig. (2)—as compared to the ordinary type of power driven outfits, it will do more work, faster and cost far less to operate.

The engine is equipped with a "two-speed" transmission which provides extra leverage for the handling of casings in the "red-bed" country or heavy bailers through deep water. This feature is not found on any other drilling engine of equal capacity or size. The "two-speed" transmission provides an easy and gradual pick-up of very heavy loads and a regulation of the band-wheel speed for ramming, etc. Engine speed range allows for high speed tool pulling.

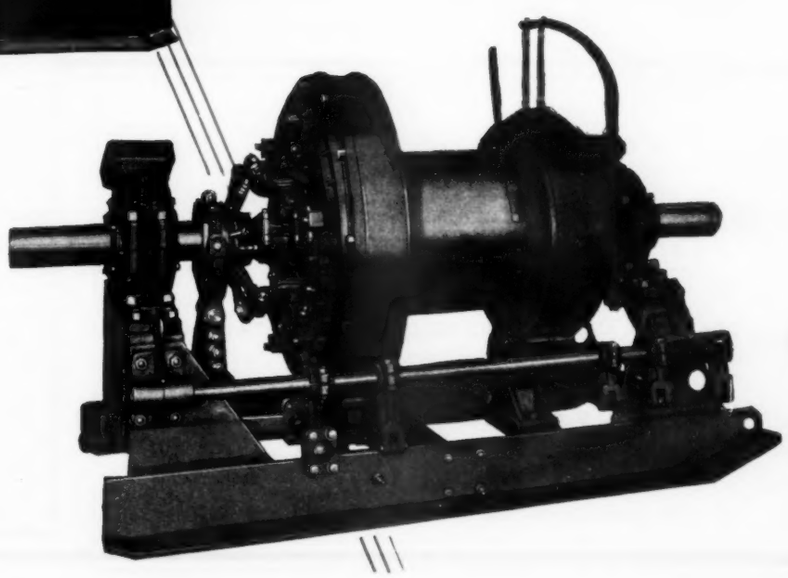
Both engine and clutch units are portable —a 2½ ton truck will handle them easily —low cost of transportation and quick movement.

The BUDA units are obtainable in many different combinations up to 150 H.P. Operates on either Gas or Gasoline. Engine illustrated is the BUDA JH-6, 150 H.P. and is furnished complete with all necessary accessories and equipment.



THE BUDA COMPANY
Established 1881
HARVEY (Suburb of Chicago) ILL.
TULSA, OKLA., 311 E. Second Street
SAN FRANCISCO, 664 Mission Street

The BUDA Reverse Clutch is simple to operate—*no new method to learn.* The clutch is fitted with a neutral brake shoe, this in combination with the forward clutch and reverse band being operated by one lever provides the link motion on the derrick floor the same as steam engine control.



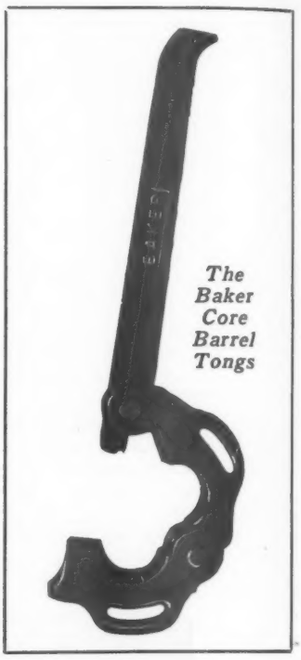
We have just issued a new bulletin completely describing this unit and its hook-up—just ask for Bulletin 643.

The Baker Standard Core Barrel

Cable-Tool Coring the Baker Way

BAKER has simplified cable-tool coring—made it as simple and as certain as drilling with an ordinary bit. The Baker Standard Core Barrel will give good, uncontaminated cores in any formation—it has a record of having taken a two-foot core at 3,800 feet in hard formations, where a rotary core barrel failed! It is not a punch barrel, but a scientifically designed tool of remarkable dependability.

The Baker Core Barrel Tongs were designed especially for use with the Baker Core Barrel. Low in price, it is nevertheless sturdy and dependable, and joints on the Baker Core Barrel can be set up quickly and easily without danger of crimping or crushing the barrel. Designed for use with the floor circle and jack.



The Baker Core Barrel Tongs

The other unit in the Baker Standard Coring Combination—the Baker Hydraulic Core Extractor—permits removing the core from the barrel without danger of spoiling it. It consists of a two-stage force pump, furnished with sub connections for both core barrel and pump. It is capable of tremendous pressures without undue exertion.

Baker Standard Coring Tools are built like every Baker product—with scientific accuracy. For years Baker tools have been the standard of comparison in oil country use; and the Baker Standard Coring Combination—barrel, tongs and core extractor—are worthy to stand alongside the rest of the line. Experienced operators need ask no more.

For details, write for the Baker catalog. It describes the entire line—and it's full of valuable information!

The Baker Hydraulic Core Extractor

BAKER CASING SHOE COMPANY

Box L, Huntington Park, California

COALINGA, CALIF. · BAKERSFIELD, CALIF. TAFT, CALIF.

Export Sales Office:
25 Broadway, New York City

Mid-Continent Representatives:
B & A SPECIALTY COMPANY

220 East Brady St., Tulsa, Okla.

708 Keystone Bldg., Houston, Texas

PRODUCTION PRACTICES IN PERMIAN BASIN

(Continued from Page 62)

the top of the lime. No screen, liners, or perforated pipe are commonly used.

The gas pressure in this field runs as high as 1,500 pounds per square inch and the volume as high as 100,000,000 feet. It is necessary therefore that all valves, fittings, connections, etc., be of steel and capable of withstanding these high pressures. The gas contains a small amount of sulphur and precautions must be taken against men working in cellars or closed quarters where this gas can accumulate.

An innovation in drilling machinery in this country has been successfully used in this field. This is a rig which had previously been used successfully in Mexico. This rig uses inserted pipe and a stuffing box. The Kelly joint or drill pipe works through this stuffing box, preventing the well from blowing out around the drill stem and a valve on the flow-line regulates the flow from the well. With this method clear water can be used no matter how strong the gas pressure. This rig has another novel feature in that the feed of the drill stem is controlled hydraulically.

Average cost of wells in this field will run from $35,000 to $50,000, and with good luck can be completed in from five to eight weeks.

Production (Church and Fields Pool)

The Church and Fields Pool has been unusual and interesting in the production methods employed and difficulties encountered. This field, so far during its life, has had practically all of the modern production methods used, shooting and air or gas lift playing an important part. Producing oil has been made more difficult by the high concentration of hydrogen sulphide gas and large deposition of paraffin.

There have been three stages of production employed throughout the Church and Fields area.

1. Natural Flowing.
2. Air and Gas Lift.
3. Pumping.

Natural Flowing Period

Where the formation has sufficient contained gas to flow the wells, as the production has declined, shooting has been resorted to, further increasing production and prolonging the natural flowing stage.

The surface equipment such as well head connections, traps or separators and stock tanks have been of conventional design and in common use elsewhere.

The common practice has been to provide a separator for each well. Some operators have favored placing the separator away from the well and holding high enough back pressure to force the oil to the stock tanks, while others have placed the separators on structures at the derrick, allowing the oil to gravitate to stock tanks, this arrangement giving a wider range of control over back pressures. It is believed that this latter arrangement is proper because a flowing well should have the same benefits as an air lift well. The placing of the traps in this manner, on air lift wells, has been definitely proven as being advantageous.

The initial production on wells in this area has ranged from small pumpers of 30 or 40 bbls. per day to as high as 8,000 bbls. per day. There has been no phenomenal gushers, but the daily production per well has run high and there will be a high ultimate yield per acre. To date some leases have yielded as high as 20,000 bbls. per acre. The peak for this area reached 119,000 bbls. per day.

The gas oil ratio has been comparatively low, averaging between 500 cubic feet per barrel to 1,000 cubic feet per barrel. There have been ratios as low as 350 cubic feet per barrel observed while the well was flowing steadily. The back pressures have been held low, only enough for fuel purposes or for lifting the oil to the stock tanks. The reason for this being a low formational pressure, possibly not over 500 pounds or 600 pounds initially. By maintaining a low back pressure the differential across the face of the formation is increased.

Practically All Wells Shot

With few exceptions, all of the wells have been shot, some as high as four or five times, the shots varying from what could be considered squibbing, to one 1,000-quart shot. The average size shot would be around 100 to 200 quarts. There has been no uniformity in the size of shot because each well has had its own condition, such as amount of fluid it was making, position of the oil string, whether or not it had been cemented, the thickness of pay, etc., all determining the size of shot.

In the natural flowing period of the well, the Humble Oil & Refining Co. has considered it in two definite stages. First, when the well is brought in it is allowed to flow steadily through the 6⅝-inch casing until at such time the gas volume has fallen off and the well first starts to head. This heading condition has been determined by placing orifice meters on the discharge line from the separators. When the well first shows signs of heading on the chart, preparations are then made to run tubing of proper size. The orifice meter or pressure recording gauge has an important part in determining when to run the tubing, as it has been found that the charts will indicate a heading condition within the well that will not be in evidence for a week or so by discharge gas or production.

After the tubing is run, the well is then flowed through the tubing until signs of heading again are evidenced. If the well is of sufficient size to warrant putting it on the air lift, preparations are made to flow it in this manner; if not, the well is put on the beam. We have in mind, in this procedure, the delivery of all the oil possible to the surface by natural forces. At this point it is well to bring out that the problem of increasing the natural flowing period of a well is as important, if not more so, than artificial lifting or pumping, and should engage the attention of superintendents and engineers in the field more than it has in the past.

Air and Gas Lift

The same remarkable results have not been accomplished with the air and gas lift in the Church and Fields Pool as in other parts of the country. Some wells have been increased possibly 50 per cent of their initial production, while others have shown very little increase, if any. There have been definite indications, however, that production has been steadied up and maintained over a period; and if the air lift had not been applied the wells would have been on the pump a short time after completion.

The equipment used for flowing purposes has comprised all of the popular designs connected up in various ways.

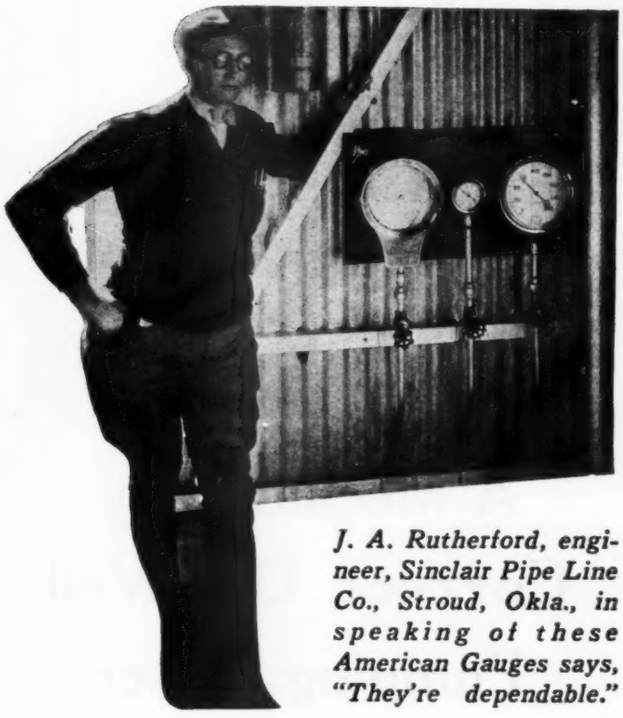
Flowing through tubing has been almost a necessity because of the high deposition of paraffin. It is almost impossible to keep the annular space free of paraffin. With the exception of one company, all of the operators have flowed their wells through the tubing. The paraffin accumulation has given more trouble in the air lift wells than in either natural flowing or pumping wells. The higher velocities due to the nature of flowing by air lift leads to a more rapid accumulation of paraffin.

The greatest deposition is found 600 feet to 1,000 feet down from the surface. There is some paraffin deposited the full length of the tubing, but that towards the top has given the trouble. The paraffin scraper, which nearly everyone is familiar with, is used to keep the tubing clean, it being run once a day in nearly all wells. Nothing has been developed that will do the work more positively. Some chemicals have been tried, but have failed to produce any noticeable results.

On account of the low rock pressure, it has been necessary and desirable to place the tubing as close to bottom as is practical without blasting the face of the formation.

No attempt has been made to apply

"They're dependable"



J. A. Rutherford, engineer, Sinclair Pipe Line Co., Stroud, Okla., in speaking of these American Gauges says, "They're dependable."

The engineer prefers American Gauges and Thermometers because he knows he can rely upon their long service and constant accuracy.

Write for the following:

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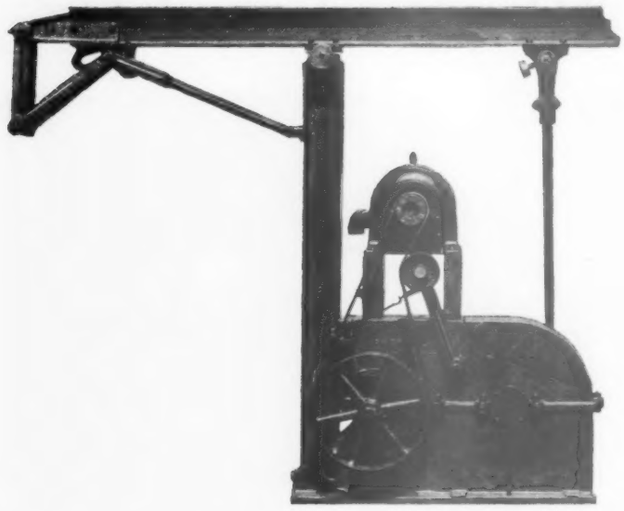


A Mechanically Correct Oil Well Pumping Power

Fabricated with "H" Beam for Sampson Post and Walking Beam.

Toggle made from steel casting.

Interchangeable bronze bearings throughout.

Cut gears running in oil.

Patented cam motion keeps polish rod in alignment at all times.

Can be used to pump from one to three wells.

Local Distributors Wanted

Stork Engineering Company
Saginaw, Michigan, U. S. A.

air or gas lift in the Yates and Winkler Fields.

Pumping

Various means of pumping and equipment have been used in the Church & Fields Pool and all appear to be equally successful.

Pumping wells in this area has been difficult on account of the rod breakage. It is impossible to get any well to pump continuously. Rods have parted as many as three or four times in one 24-hour period.

The water encroachment in the Church Fields-Gulf McElroy area has not reached a serious conditions as yet, although there are a number of wells that are making water.

Production Yates Pool

On driving through the Yates district one is impressed by the lack of activity, it being possible to drive within a few hundred feet of a large gusher and not know that a well is near. With a few exceptions all of the wells are flowing naturally. The production is pinched in due to proration, and the wells are producing only a small part of their potential production.

Equipment used is of standard design connected up in various manner as found in other fields. Little can be said of interest on production in this section as all the wells are pinched and very few of the usual production problems have presented themselves. There have been no indications of paraffin troubles as experienced in Church Fields-Gulf McElroy Pool.

PRODUCTION DATA

Humble Oil & Refining Co.'s No. 2 University, Crane County

Date Dec.	Discharge Pres.	Discharge Vol.	Discharge F/B	Prod.
1	15	900,000	584	1,540
2	18	988,000	641	1,541
3	22	1,060,000	692	1,530
4	22	1,130,000	739	1,530
5	25	1,130,000	672	1,677
6	25	1,130,000	703	1,603
7	24	1,100,000	682	1,613
8	24	1,080,000	715	1,504
9	22	1,138,000	730	1,559
10	21	1,100,000	785	1,400
11	20	1,050,000	715	1,467
12	17	1,140,000	770	1,480
13	18	1,138,000	780	1,460
14	10	1,080,000	725	1,486
15	18	915,000	662	1,380
16	14	1,066,000	765	1,394
17	16	1,127,000	750	1,510
18	15	1,058,000	748	1,414
19	17	1,090,000	816	1,348
20	18	1,007,000	832	1,225
21	18	1,074,000	828	1,305
22	18	1,120,000	855	1,316
23	17	714,000	641	1,114
24	19	949,000	718	1,306
25	19	913,000	659	1,386
26	20	924,000	704	1,312
27	22	973,000	844	1,147
28	17	1,009,000	835	1,260
29	18	1,008,000	742	1,358
30	19	1,025,000	812	1,261
31	21	1,071,000	765	1,400

Humble Oil & Refining Co.'s No. 6 M. A. Smith-A, Pecos County

Date Feb.	W. H. Press.	Disch. Press.	Disch. Vol.	Disch. F/B	Prod.
1	300	14	48,000	135	354
2	290	11.4	42,000	133	339
3	300	14.2	183,000	164	812
4	300	16	175,000	216	807
5	300	16	182,000	183	893
6	300	15.5	150,000	172	862
7	300	16	195,000	172	1,136
8	300	15	219,360	184	1,187
9	300	15.4	227,000	188	1,202
10	300	16	232,000	188	1,235
11	300	16.4	239,000	184	1,296
12	300	14.4	189,500	172	1,100
13	300	13.8	238,000	187	1,221
14	300	13	225,240	156	1,438
15	300	10.8	147,000	205	714
16	300	13	161,500	224	719
17	300	12	151,440	212	714
18	300	10.4	155,680	218	714
19	300	10.4	153,600	209	734
20	300	10	145,320	200	724
21	300	10	143,000	196	729
22	300	16.6	142,600	194	734
23	300	18	146,200	200	729
24	300	17	95,000	285	339
25	275	11	80,000	265	283
26	295	9.4	88,000	301	292
27	290	12	95,900	292	328
28	290	3.7	46,300	155	298
29	280	5	46,300	155	298

Humble Oil & Refining Co.'s No. 2-B M. A. Smith, Pecos County

Date Feb.	W. H. Press.	Disch. Press.	Discn. Vol.	Disch. F/B	Prod.
1	315	7	99,000	198	502
2	270	1.5	29,250	55	506
3	285	3.5	75,200	203	370
4	285	3.6	75,850	175	431
5	300	4.4	87,000	172	502
6	290	5.5	86,600	200	431
7	310	5	79,250	160	493
8	280	4	69,150	222	298
9	300	4.6	86,500	172	493
10	315	6.2	102,650	205	502
11	315	5.4	98,400	196	498
12	310	5.4	98,000	196	498
13	285	5.4	90,000	243	370

(Continued on Page 111)

TABLE OF TUBING, REPRESENTATIVE SIZES, AND DEPTHS IN USE IN THE CHURCH AND FIELDS POOL

Well No.—	Size tub.ng (inches)	Depth (feet)	How flowing	Dist. off bottom (feet)
Humble Univ. No. 4	3	2,844	Through tubing	
Humble Univ. No. 11	2½	2,794	Through tu ing	146
Humble Univ. No. 12	3	2,824	Through tubing	156
Humble Univ. No. 13	3	2,831	Through tubing	139
Eastland No. 2	3	2,807	Through tubing	143
Eastland No. 5	4	2,775	Through tubing	175
Eastland No. 6	3	2,802	Through tubing	148

TABLE COMPRESSOR INSTALLATIONS

Company—	No. units	Make compressors	Est.mated plant cap. cu. ft. daily	Power	Type inter-cooler Cooling tower	Well control Foxboro controller central
Eastland Oil	8 3	Clark 20 hp. Clark Semi-portable	3,780,000	Gas eng.		
Tidal F lease	6 6	Worthington Ingersoll-Rand XOB	2,850,000	Gas eng.	Inter-	Westcott meter Emsco controller at well
Landreth	12	Ingersoll-Rand 8XOB-8XRB	3,360,000	Elect. motors	Inter-coolers	Foxboro controllers at well
Tidal I lease	6	Ingersoll-Rand XOB	1,950,000	Elect. motors	Inter-coolers	Westcott meter Emsco controller at well
Gulf McElroy	4	Clark 80 hp.	1,440,000	Gas eng.	Cooling tower	Foxboro controllers at well
Gulf Lasseter	2	Clark Semi-portable	600,000	Gas eng.	Cooling tower	Manual control at well
Simms	2	Worthington	600,000	Gas eng.	Cooling tower	Manual control at well
Humble	7	Ingersoll-Rand	2,500,000	Elect. motors	Cooling tower	Foxboro controllers central

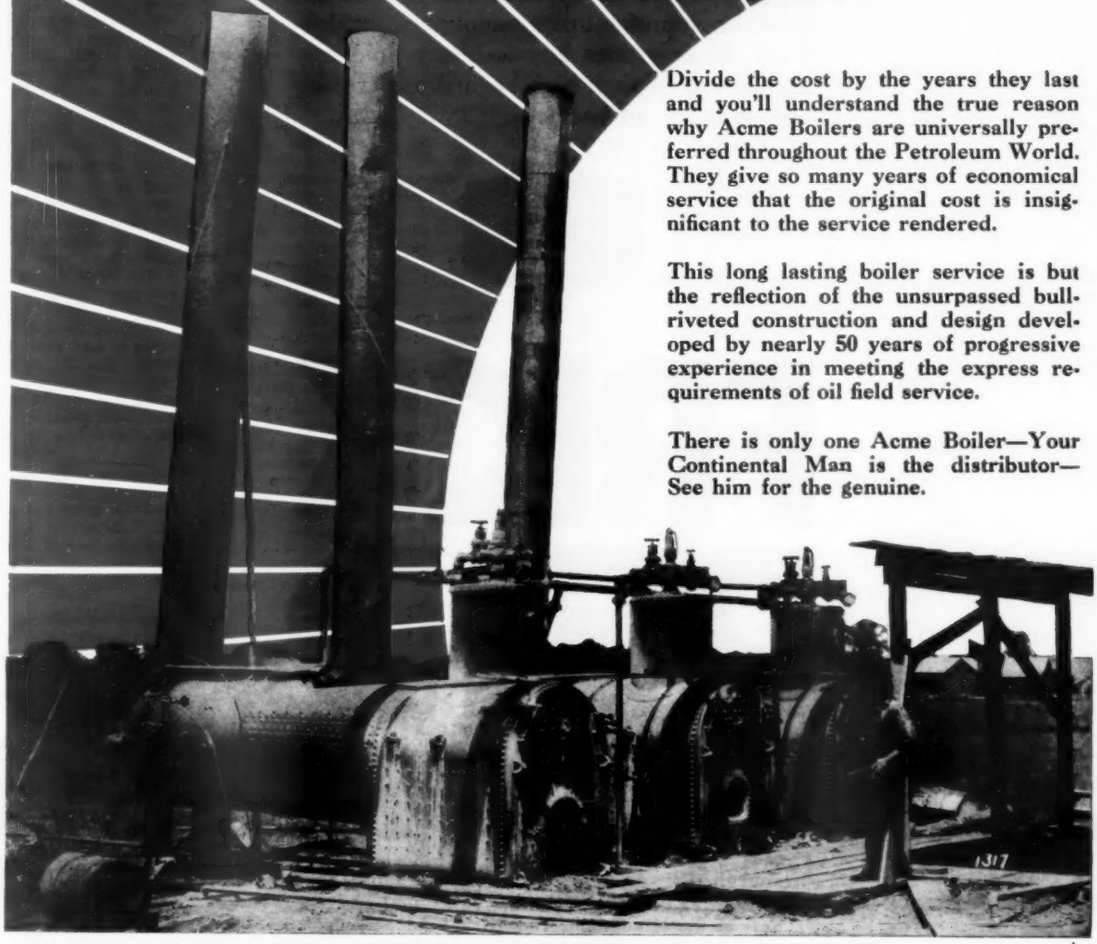
With the exception of one or two of the companies, all of them are placing the separators at the wells for flowing.

PRODUCTION DATA

Humble Oil & Refining Co.'s University Well No. 12

Date March	P	Input vol.	F/B	P	Discharge vol.	F/B F/B	Prod.
1	164½	263,000	492	11	770,000	1,428	539
2	168	215,000	360	11	769,000	1,350	569
3	168	215,000	387	12	780,000	1,400	557
4	153	209,000	342	10	760,000	1,390	548
5	162	212,000	377	10	725,000	1,325	548
6	123	213,000	400	11	770,000	1,441	532
7	142	184,000	336	11	775,000	1,420	548
8	143	189,000	340	12	790,000	1,410	556
9	142	187,000	340	12½	900,000	1,636	550
10	143	154,000	280	12½	860,000	1,560	550
11	143	156,000	280	11	870,000	1,565	555
12	149	177,000	319	12	890,000	1,600	555
13	149	214,000	422	12	895,000	1,760	509
14	142	147,000	260	11	860,000	1,520	564
15	142	156,000	278	12½	900,000	1,605	560
16	142	160,000	290	11	865,000	1,571	550
17	138	146,000	275	12½	871,000	1,640	531
18	142	154,000	299	12	855,000	1,660	514
19	141	183,000	297	13	870,000	1,410	617
20	140	150,000	244	12	800,000	1,297	617
21	146	150,000	277	12½	820,000	1,511	541
22	149	121,000	196	12	790,000	1,299	608
23	155	89,000	162	12	760,000	1,420	550
24	160	189,000	343	12½	850,000	1,541	550
25	156	174,000	321	12½	820,000	1,510	541
26	165	165,000	305	12½	820,000	1,520	540
27	154	286,000	530	8	768,000	1,411	540
28	138	157,000	293	10	880,000	1,640	538
29	139	99,000	181	9	782,000	1,430	546
30	136½	129,000	236	8	700,000	1,507	504
31	146	135,000	250	8	710,000	1,420	500

TITUSVILLE ACME BOILERS "Always on the job"



Divide the cost by the years they last and you'll understand the true reason why Acme Boilers are universally preferred throughout the Petroleum World. They give so many years of economical service that the original cost is insignificant to the service rendered.

This long lasting boiler service is but the reflection of the unsurpassed bull-riveted construction and design developed by nearly 50 years of progressive experience in meeting the express requirements of oil field service.

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Oil Well Pumps & Sucker Rods

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East of the Mississippi, The Frick & Lindsay Co.

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Manila Cordage, Including Frick-Reid Manila Bull Ropes —same quality for ten years.

National Transit Pump and Machine Co.
Power and Steam Pumps

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"Camel Hair" Belting, Belt Clamps

Date Feb.	W. H. Press.	Disch. Press.	Disch. Vol.	Disch. F/B	Prod.
14	285	3.4	69,500	173	400
15	315	5	90,000	180	503
16	325	8	120,220	240	498
17	300	3	68,400	185	369
18	300	3.4	84,000	190	441
19	300	3.4	71,500	198	370
20	300	5.2	84,700	196	431
21	300	3.5	71,500	155	466
22	295	3.4	69,150	168	410
23	295	3.9	75,100	168	446
24	285	3.9	74,500	172	431
25	315	4	93,500	225	415
26	275	Changing meter setting			308
27	305				415
28	300				333
29	325	10	108,600	235	462

The accompanying tables will give an idea of production, well head pressures, gas factors, etc., obtained in Yates. The gas factors shown here are smaller than those obtained higher on the structure when gas from the free zone is being produced with the oil. The gas oil ratios from this area will average between 500 to 1,000 feet per barrel.

Production decline curves are of little value at present and little can be derived from them, for proration has not allowed any of the more important wells to be produced wide open.

In the Yates Pool nearly all of the wells in the southeast corner of the field are making some water and a small group of wells in the northwest edge are also making water. The water situation cannot be considered serious. There is not a doubt that the forced pinching in of the wells in Yates by proration has had a marked influence on the water encroachment and needless to say that it has been the best for the field.

Winkler County Production

The Winkler County Field has presented some unusual production problems, caused by the rapid encroachment of water in some of the larger producers. Various methods have been used trying to shut off this water but it is still a debatable question as to just where the water is coming from. At times it has been necessary to employ all of the ingenuity available to treat and prepare the oil for the pipe line. This by necessity has developed a very efficient method of handling fluid and oil on the lease. High gas pressure and volumes have been another source of worry and trouble to the operators in this area.

Practically all of the producers in the Hendricks Pool have been flowing wells. A number of the wells are being pinched, the reasons are, trying to forestall the water encroachment and limited pipe line capacity. The discovery well and two offset wells are the only ones on the pump at present.

Shooting has not been resorted to generally throughout the field. The average size shot has run between 200 and 300 quarts in size. One 980-quart shot has been used. The wells that have been shot have increased in production temporarily, only to settle back to their old production within three or four weeks.

The gas oil ratios have been very low in the southern portion of the field, averaging around 325 feet per barrel. The central part of the field around the high gas zone the foot-barrel ratios have been as high as 10,000 to 15,000 feet, but the gas volume rapidly decreases as the production increases, giving a lower foot-barrel ratio for this area. While farther north, lower down on the flank of the structure, the gas oil ratios decrease from 800 to 1,000 feet per barrel. In the extreme northern end of the proven area the gas-oil ratios are found to be low, averaging about 300 feet per barrel. Production decline curves on individual wells are of little value, as nearly all of the wells are run together for treating and it has been impossible to obtain individual gauges.

PRODUCTION DATA
Humble Oil & Refining Co.'s
No. 6 T. G. Hendricks

Date March	Discharge Pres.	Discharge Vol.	Discharge F/B	Net Prod.	Wtr.
15	50	3,700,000	738	4,983	32%
16	50	3,699,900	831	4,447	33%
17	50	3,699,900	872	4,251	33%
18	50	3,699,900	874	4,229	33%
19	62	3,699,900	716	4,300	33%
20	55	3,321,400	761	4,239	38%
21	60	3,452,500	858	4,023	38%
22	60	3,046,200	800	3,722	37%
23	60	3,100,000	750	4,100	37%
24	60	3,450,000	583	4,205	37%
25	60	3,452,900	528	4,691	36%

PRODUCTION DATA
Humble Oil & Refining Co.'s
No. 3-B Ida B. Hendricks

Date March	Discharge Pres.	Discharge Vol.	Discharge F/B	Net Prod.	Wtr.
1	22	555,000	267	2,076	*
2	22	555,000	267	2,076	
3	22	555,000	273	1,989	
4	22	550,000	259	2,118	.2%
5	22	554,000	277	2,118	
6	20	538,000	269	1,999	
7	18	555,000	275	2,004	
8	18	550,000	285	2,014	
9	21	710,000	370	1,932	2%
10	21	710,000	452	1,570	
11	65	603,200	402	1,493	
12	25	718,000	368	1,952	
13	38	713,000	364	1,957	
14	20	699,900	368	1,895	
15	30	700,000	366	1,905	.2%
16	33	689,000	375	1,823	
17	35	699,900	368	1,895	
18	40	575,900	321	1,791	
19	53	575,922	324	1,773	
20	40	575,900	329	1,741	
21	42	554,400	319	1,736	.3%
22	42	554,400	319	1,736	
23	40	560,000	325	1,725	
24	42	541,000	315	1,714	
25	42	554,600	326	1,704	.2%

*1 1/32-inch choke.

Some of the wells have been tubed with proper size tubing upon showing signs of heading. The tubing has steadied up the flow on wells in which it has been run. Owing to the short time the tubing has been in the wells, nothing can be derived as to its ultimate benefits.

Treating

In the West Texas fields, chemicals and other well-known methods are being used to treat the cut oil. Chemicals are being more generally used. The manner of handling the cut oil is introducing the chemicals by means of a lubricator on the flow line close to the well. The chemical and the oil are thoroughly mixed as they pass through the flow line and separator to the treaters. The gun barrel, excelsior tank, settling tank, and agitating in the flow tanks are all used for breaking down the emulsion in different parts of the field.

In the Winkler County Field the gun barrel method of treating with chemicals is in more general use because the emulsion **breaks** readily and the gun barrel will give a continuous flow of fluid taking the water off at one level and the oil off at another.

Corrosion

To date no noticeable corrosion difficulties have developed either in the Winkler County or Yates Fields. Equipment can be expected to give trouble sometime in the future as the gas in the Yates Pool runs between 5 and 6 per cent by volume of hydrogen sulphide, while in Winkler County the gas contained in the oil runs between 2 and 3 per cent by volume hydrogen sulphide gas.

Church and Fields Pool

Corrosion in the Church and Fields Pool is general and of a more serious nature because of the high concentration of hydrogen sulphide gas, averaging about 10 per cent for the field and one well ran as high as 14 per cent by volume. In some cases the action is more rapid, varying with operating conditions. It is notable that there is no uniform action with the same equipment used under nearly the same conditions.

Drilling Lines

Drilling lines have been a source of trouble, due to the hydrogen sulphide gas as the following service records will reveal. One cast steel drilling line lasted 35 to 45 days; another 4 days taking two lines to drill the well in. Other available records show that lines have lasted 36 hour, 9 days, and 14 days. The galvanized line has been the salvation for cleaning out, swabbing and drilling deeper in this field.

Stock Tanks

The stock tanks in this area have been corroding badly and giving a good deal of trouble; the decks and bottoms are failing first, the sides remaining in good condition. Very little has been done in the field to combat corrosion in the stock tanks. The Atlantic Oil Producing Co. dissembled a 1,500-bbl. tank which had been in service about seven months. This tank had the bottom and sides painted with special paint. The tank was in good condition except the underneath side of the deck which was slightly pitted.

Only one string of 6⅝-inch casing has been pulled. The casing was in the well for about 10 months. This well has been

BABCOCK & WILCOX
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Boiler Tubes
Bailer Tubing
Special Tubing
Tank Car Piping
Line Pipe, up to 5 inches
Still Tubes, Upset or Plain
Tubular Structural Material
Refinery Piping, 1-in. to 5-in.
Oil Well Tubing, 2-in., 2½-in., 3-in.
External Upset Tubing, 2-in., 2½-in., 3-in.

Seamless Steel Pipe

Special attention is called to the Seamless Steel Pipe (iron pipe sizes 1-in. to 5-in.) offered by this company. The same advantages of seamless steel which have led to the widespread adoption of this material for oil well tubing, high-pressure boiler tubes and still tubes, are now available for various piping installations.

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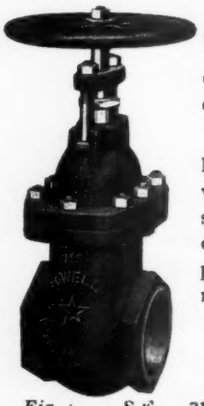
NEW IN DESIGN

but predominant in quality



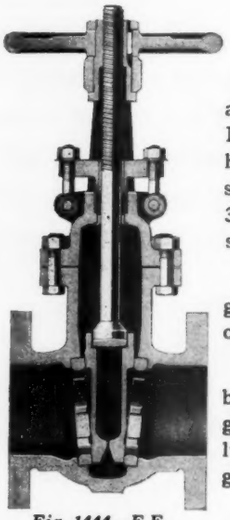
OUR New Standard Iron Body Gate Valves—although new in design—are made to the usual Powell quality.

This high standard of construction has produced in these iron body gate valves the maximum in rugged strength and serviceability, the fullest interchangeability of parts, and a perceptible reduction in repair and replacement in service.

Fig. [illegible]—S.E. N.R.S. Gate Valve.

All iron castings are of special grey iron with nickel added giving a good, even and close grained metal, increasing toughness, and having an average tensile strength of 34,000 to 36,000 pounds per square inch.

Fig. 1443—S.E. O.S.Y. Gate Valve.



Bronze trimmings are cast from special Powell bronze alloy having a tensile strength of 35,000 to 38,000 pounds per square inch.

Both rising and non-rising stem gate valves are obtainable with solid of double wedge discs.

We manufacture a complete line of bronze, iron and steel, globe, angle, gate and check valves; also oilers, lubricators, grease cups, water and oil gauges, etc.

Fig. 1444—F.E. Sectional O.S.Y. Gate Valve

Send for our New Standard Iron Body Gate Circular.

Powell Valves

THE WM. POWELL COMPANY

2525 Spring Grove Ave.

CINCINNATI, OHIO

producing on the beam with no appreciable water. Upon examination it was found in good condition.

The corrosion on tubing used for both pumping and flowing by air is great. The life of a string of tubing is comparatively short as can be seen by the accompanying table.

TABLE SHOWING CONDITION OF TUBING

Well—	Kind Tubing	Size Inches	No. Days In well	Kind of Service	Condition
No. 11 Humble	Galv.	3	134	Air	Bad condition lower joints
				No water	
No. 10 Humble	Galv.	2½	200	Pump	Bad condition lower joints
				No water	
No. 1 Eastland	Galv.	3	122	Air	
				4 to 5% water	Fair condition
No. 7 Eastland	Steel	4	45	Air	
				70% water	Good condition
No. 8 Eastland	Steel	4	182	Air	
				No water	Good condition
No. 33 Gulf McElroy	Steel	2½	300	Pump	
				Small pct. wtr.	Good condition
No. 8-F Tidal	W. Iron	2½	90	Air	
				No water	Bad condition
No. 4 Tidal	W. Iron	2½	90	Air	
				No water	Bad condition

From the small number of strings of tubing that have been inspected it is not possible to draw any definite conclusions at this time as conditions vary a great deal in individual wells.

CUMULATIVE PRODUCTION PROMISES TO REGISTER CONTINUED DECLINES

The gross production of crude oil in the United States for the 12 months end.ng March 31, 1928, was 903,730,295 bbls. This is 120,392 bbls. less than the production for the 12 months ending December 31, 1927, which was 903,850,687 bbls. The 12 months ending April 30 will show a further decline from the output of the calendar year 1927. The record 12 months' production was that between February 1, 1927, and January 31, 1928, 904,002,388 bbls.

With the overproduction situation apparently well in hand in Texas, Oklahoma, California and Wyoming, the cumulative production covering 12-month periods promises to show very material declines with the passing of each month. In the spring of 1927 production was rising rapidly almost daily and there was objection on the part of some operators in the Texas and Oklahoma Fields to stem the increasing current of crude. In March, 1927, the production averaged 2,455 866 bbls. In March this year it averaged 2,399,146 bbls. In Apr.l last year the average was 2,484,614 bbls., and in May it rose to 2,502,771 bbls.; in June to 2,621,189 bbls., which was the high daily average for any one month.

SUMMARY BY PRODUCING DIVISIONS
Crude Oil Production in the United States in March, 1928

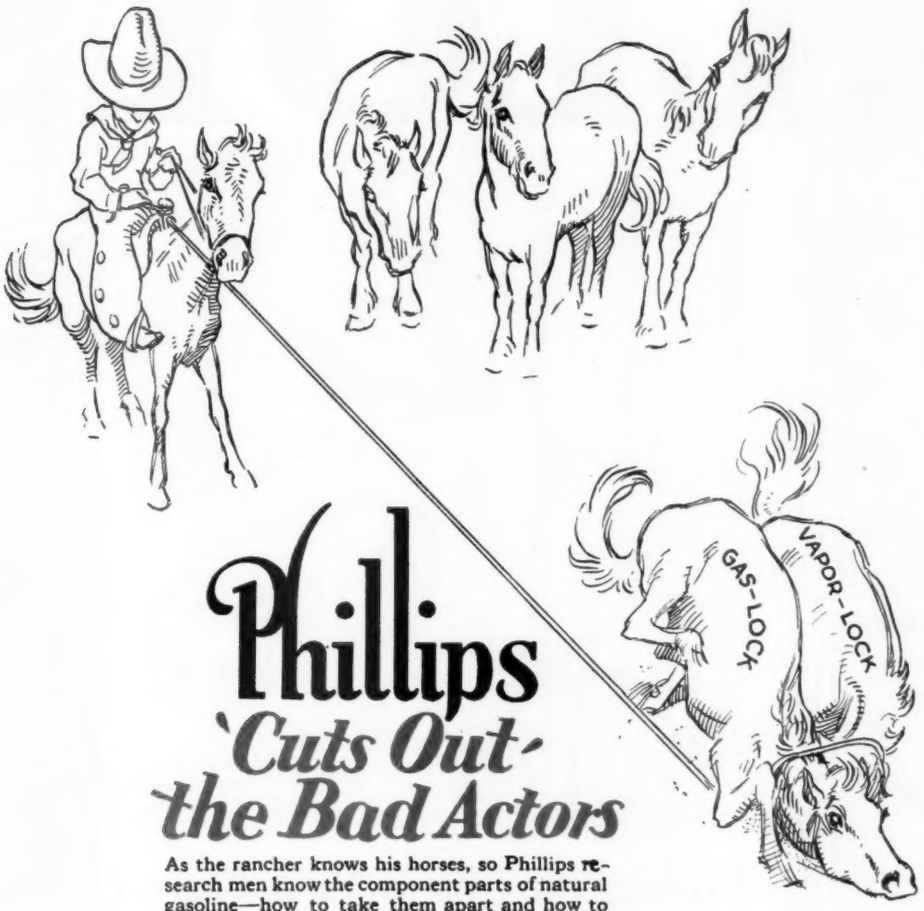
	Dly. Av. Bbls.	Month Bbls.
Oklahoma	650,404	20,162,524
California	616,720	19,118,324
Texas	692,472	21,466,632
Kansas	109,001	3,379,031
Arkansas	86,708	2,687,948
Louisiana	60,360	.....
Montana	12,552	358,112
Wyoming	55,319	1,714,889
Colorado	8,373	259,563
New Mexico	2,237	69,347
*Eastern Fields	105,000	3,255,000
Total March	2,399,146	74,373,526
Total February	2,409,039	69,862,483
Difference	9,893	4,511,043

*Estimated.

Mid-Continent Fields		
Kansas	109,001	3,379,031
Oklahoma	650,404	20,162,524
North Texas	80,100	2,483,100
Central Texas	47,259	1,465,049
West Texas	334,867	10,380,878
Panhandle Texas	72,683	2,253,173
East Central Texas	24,185	749,735
Arkansas	86,708	2,687,948
North Louisiana	44,165	1,369,115
Total March	1,449,372	44,930,553
Total February	1,452,948	42,135,546
Difference	3,576	2,795,007
Gulf Coast and Southwest Texas		
Gulf Coast (Texas-Louisiana)	122,478	3,796,818
Southwest Texas	27,095	839,945
Total March	149,573	4,636,763
Total February	153,158	4,441,580
Difference	3,585	195,183

OKLAHOMA
Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Washington County	5,776	179,056
Nowata County	5,109	158,379
Rogers County	2,250	69,750
Osage and Eastern Kay Counties:		
Burbank	42,718	1,324,258
Osage, outside Burbank	26,652	826,212
Total	69,370	2,150,470
Tulsa and Wagoner Counties:		
Bird Creek, Owasso, etc.	3,993	123,783
Red Fork, Sand Springs, Turkey Mountain, Bruner	3,202	99,262
Bixby, Leonard & Jenks	2,397	74,307
Broken Arrow & Coweta	1,249	38,719
Total	10,841	336,071
Okmulgee and Muskogee Counties:		
Mounds and Beggs	7,104	220,224
Bald Hill and Haskell	3,191	98,921
Morris, Boynton & Cole	2,306	71,486
Okmulgee	2,814	87,234
Tiger Flats and Schulter	1,230	38,130
Total	16,645	515,995
Okmulgee, Okfuskee, Seminole and Pottawatomie Counties:		
Seminole area:		
Seminole City	57,087	1,769,697
Bowlegs	83,570	2,590,670
Little River	39,429	1,222,299
Earlsboro	100,525	3,116,275
Searight	17,942	556,202
Total Seminole area	298,553	9,255,143
Pearson-St. Louis-Maud:		
Henryetta, Deaner-Lyons, etc.	9,782	303,242
Wewoka	7,737	239,847
Cromwell	10,147	314,557
Papoose-Gilcrease	4,812	149,172
Jarvis-Holm	812	25,172
Weleetka	716	22,196
Wetumka	45	1,395
Yeager	557	17,267
Miscellaneous	702	21,762
Total	348,375	10,799,625
Creek County:		
Glen ool, Sapulpa and Kiefer	6,441	199,671
Cushing-Shamrock	17,091	529,821
Bristow, Kellyville and Depew	15,811	490,141
Pickett Prairie and North Bristow	2,330	72,230
Eastern Bristow or Slick	5,611	173,941
Total	47,284	1,465,804
Pawnee County:		
Cleveland	2,740	84,940
Keystone	2,888	89,528
Jennings	2,757	85,467
Otoe	801	24,831
Ralston-Masham	182	5,642
Total	9,368	290,408
Payne County:		
Yale, Quay and Ingalls	5,684	176,204
North Cushing	2,944	91,264
Deep Rock	1,698	52,638
Total	10,326	320,106
Lincoln County:		
Stroud	1,099	34,069
Davenport	2,309	71,579
Kendrick	385	11,935
Total	3,793	117,582
Kay, Grant and Noble Counties:		
Blackwell	1,205	37,355
Vernon	586	18,166
Otstot	1,128	34,968
Deer Creek	1,243	38,533
South Ponca	733	22,723
Mervine	325	10,075
North Braman	2,846	88,226
South Braman	1,918	59,458
Hubbard	2,836	87,916
Thomas	1,425	44,175
Tonkawa	14,726	456,506
Billings	198	6,138
Miscellaneous	709	21,979
Total	29,878	926,218
Garfield County:		
Garber	8,090	250,790
Logan County:		
Marshall	5,230	162,130
Lovell	1,130	35,030
Total	6,360	197,160
Carter County:		
Healdton	13,834	428,854
Hewitt	8,781	272,211
Graham	4,504	139,624
Fox	3,091	95,821
Brock	882	27,342
Sholom Alechem	13,353	413,943
Total	44,445	1,377,795
Stephens and Cotton Counties:		
Loco-Milroy	1,724	53,444
Comanche	804	24,924
Duncan	6,027	186,837



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	Dly. Av. Bbls.	Month Bbls.
Walters	948	29,388
Kilgore	214	6,634
Total	9,717	301,227
Jefferson County:		
Hambro, etc.	1,549	48,019
Caddo County:		
Cement	2,003	62,093
Garvin County:		
Roberson	2,269	70,339
Grady County:		
Knox	6,263	194,153
Pontotoc County:		
Allen-Francis	10,453	324,043
Beckham County:		
Sayre	46	1,426
Marshall County:		
Madill	194	6,014
Total March	650,404	20,162,524
Total February	671,833	19,483,157
Difference	21,429	679,367

KANSAS

Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Marion County:		
Florence-Urschell	556	17,236
Peabody	1,154	35,774
Covert-Sellers	511	15,841
Lost Springs	1,677	51,987
Total	3,898	120,838
Butler County:		
Elbing	2,160	66,960
Potwin	407	12,617
Cameron-Robinson	539	16,709
Wilson-Dunkle	1,601	49,631
Towanda	2,459	76,229
Fox-Bush	1,080	33,480
Nuttle-Koogler	1,623	50,313
Eldorado	7,420	230,020
Smock	194	6,014
Leon-Weaver	3,419	105,989
North Augusta	1,111	34,441
South Augusta	1,551	48,081
Sluss	294	9,114
Douglass	133	4,123
Keighly	1,266	39,246
Benton	26	806
Blankenship	908	28,148
Total	26,191	811,921
Greenwood and Woodson Counties:		
Sallyards	1,277	39,587
Teeter-Tixley-Scott	7,297	226,207
Virgil	7,931	245,861
Thrall-Burkett	2,075	64,325
Seeley	7,522	233,182
Pelhamus	1,085	33,635
Miscellaneous	1,830	56,730
Total	29,017	899,527
Cowley County:		
Rainbow Bend	1,514	46,934
Slick	651	20,181
Graham	526	16,306
Rock	203	6,293
Clark	167	5,177
Eastman	601	18,631
Winfield-New Salem	2,576	79,856
Miscellaneous	884	27,404
Total	7,122	220,782
Other Counties:		
Sumner	23,730	735,630
Rice	1,593	49,383
Russell	3,004	93,124
Reno	18	558
Harvey	40	1,240
Rooks	49	1,519
Coffey	287	8,897
Chautauqua	2,185	67,735
Elk	2,020	62,620
Wilson	197	6,107
Montgomery	1,419	43,989
Allen	557	17,267
Neosho	501	15,531
Lyon	1,174	36,394
Miami	2,410	74,710
Franklin	436	13,516
Douglas	19	589
Bourbon	16	496
Linn	184	5,704
Anderson	1,829	56,699
Labette	22	682
Chase	19	589
Woodson	1,064	32,984
Total March	109,001	3,379,031
Total February	106,203	3,079,887
Difference	2,798	299,144

NORTH TEXAS

Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Burkburnett	11,011	341,341
Electra	12,916	400,396
Iowa Park-K-M-A	3,314	102,734
Archer County	20,407	632,617
Clay County	549	17,019
Wilbarger County	11,365	352,315
Montague County	9,244	286,564
Young County	7,992	247,752
Baylor County	81	2,511
Cook County	3,221	99,851
Total March	80,100	2,483,100
Total February	77,510	2,247,790
Difference	2,590	235,310

EAST CENTRAL TEXAS

Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Mexia	7,485	232,035
Powell	12,151	376,681
Nigger Creek	771	23,901
Cedar Creek	620	19,220
Currie	530	16,430
Richland	530	16,430
Wortham	2,098	65,038
Total March	24,185	749,735
Total February	24,044	697,276
Difference	142	52,459

CENTRAL TEXAS

Daily Average and Monthly Production in March

County:	Dly. Av. Bbls.	Month Bbls.
Runnells	116	3,596
Comanche	167	5,177
Erath	290	8,990
Stephens	7,634	236,654
Eastland	7,357	228,067
Brown	12,240	379,440
Callahan	3,819	118,389
Throckmorton	1,016	31,496
Jack	1,330	41,230
Palo Pinto	447	13,857
Shackelford	9,649	299,119
Coleman	1,914	59,334
Jones	1,280	39,680
Total March	47,259	1,465,049
Total February	47,531	1,378,399
Difference	272	86,650

WEST TEXAS

Daily Average and Monthly Production in March

County:	Dly. Av. Bbls.	Month Bbls.
Upton-Crane	76,145	2,360,495
Winkler	181,583	5,629,073
Pecos	47,229	1,464,099
Reagan	21,182	656,642
Howard	3,181	98,611
Glasscock	.....	.....
Scurry	32	992
Ector	9	279
Loving	121	3,751
Crockett	1,773	54,963
Fisher	225	6,975
Mitchell	3,387	104,997
Total March	334,867	10,380,878
Total February	312,974	9,076,300
Difference	21,893	1,304,578

TEXAS PANHANDLE

Daily Average and Monthly Production in March

County:	Dly. Av. Bbls.	Month Bbls.
Hutchinson	44,240	1,371,440
Carson	7,230	224,130
Gray	20,058	621,798
Moore	.....	.....
Potter	10	310
Wheeler	1,145	35,495
Total March	72,683	2,253,173
Total February	72,883	2,287,607
Difference	200	34,434

SOUTHWEST TEXAS

Daily Average and Monthly Production in March

Field.	Dly. Av. Bbls.	Month Bbls.
Mirando	6,760	209,560
Luling	13,914	431,334
Lytton Springs	1,486	46,066
Dale	1,091	33,821
Somerset	2,614	81,034
Southton	161	4,991
Calliham	63	1,953
Kingsville	1,006	31,186
Total March	27,095	839,945
Total February	27,214	789,190
Difference	119	50,755

NORTH LOUISIANA

Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Caddo light	10,763	333,653
Caddo heavy	3,939	122,109
Homer	4,407	136,617
Haynesville	6,273	194,463
DeSoto-Red River	4,193	129,983
Elm Grove	568	17,608
Bellevue	1,002	31,062
Cotton Valley	4,487	139,057
Urania	7,890	244,590
Pleasant Hill	643	19,933
Total March	44,165	1,369,115
Total February	45,295	1,313,555
Difference	1,130	55,560

ARKANSAS

Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
El Dorado	5,261	163,091
Smackover light	8,380	259,780
Smackover heavy	66,745	2,069,095
Stephens	1,091	33,821
Nevada County	1,714	53,134
Lisbon	2,355	73,005
Bradley	118	3,658
Champagnolle	1,044	32,364
Total March	86,708	2,687,948
Total February	88,675	2,571,575
Difference	1,967	116,373

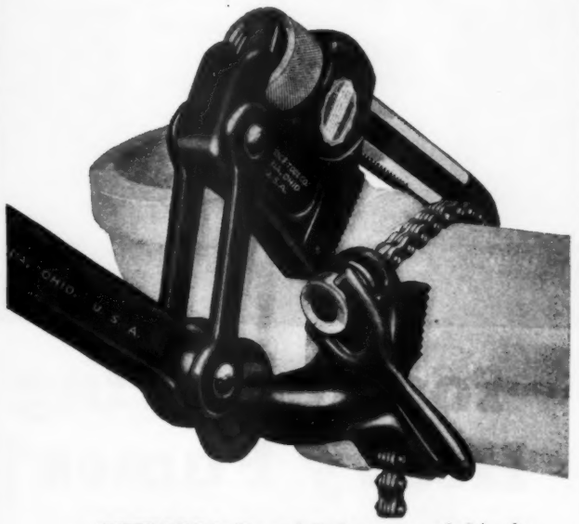
LOUISIANA

Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Vinton	4,802	148,862
Starks	200	6,200
Edgerly	1,321	40,951
Evangeline	949	29,419
Lockport	3,959	122,729
Sweet Lake	695	21,545
Sulphur	694	21,514
Hackberry	1,301	40,331
Bayou Bouillon	1,662	51,522
Sorrento	512	15,872
Miscellaneous	100	3,100
Total	16,195	502,045
Total Gulf Coast Mar.	122,478	3,796,818
Total Gulf Coast Feb.	125,944	3,652,390
Difference	3,466	144,428

RIDGID SUPER-SIX

Small in Size Giant in Action



LEVERAGE is Power! It is compounded in the RIDGID Super-Six, which will break a tight-rusted 6" joint that defies three or four men equipped with an ordinary 48-inch wrench. Yet the handle of the Super-Six is as short as that of a 36-inch. It's a remarkable wrench for all big pipe work. In trenches and similar places, where elbow-room is at a premium, nothing can beat it.

Action is through chain and adjustable toothed trunnion and so perfect the design that the tremendous action is limited to joint being worked upon. No other joint is disturbed.

The saving in time and salvaged fittings on one good tear-down job will pay for the Super-Six. You can buy with confidence. Every RIDGID is guaranteed to give complete satisfaction.

See your jobber or write for complete facts today.

Regular RIDGID with *unconditionally Guaranteed* Housing

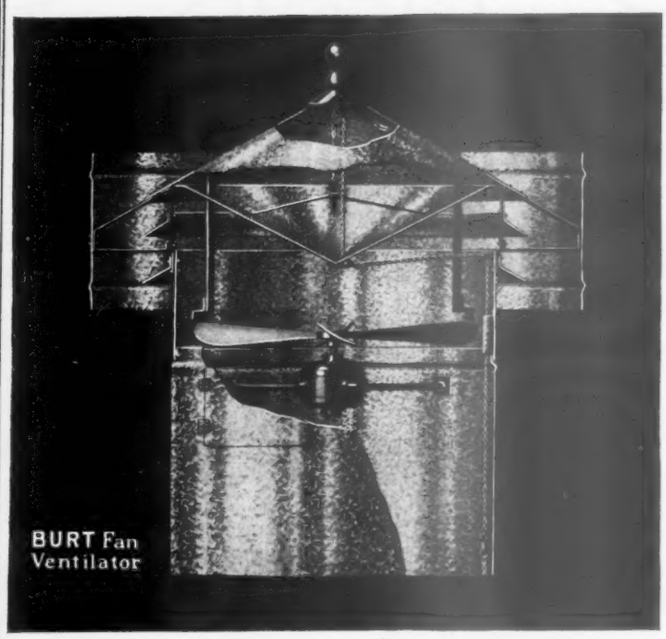
MECHANICS who know pipe wrenches like a barber knows razors swear by RIDGIDS. It's the only wrench with a housing that is absolutely guaranteed not to break or warp. Prove it on a he-man's job! Other RIDGID advantages —protected nut, easy to adjust; powerful I-beam handle, comfortable grip; pipe scale on jaw. All sizes 6" to 48".

The Ridge Tool Co.

Dept. S. Elyria, Ohio

RIDGID

PIPE WRENCHES VISES AND PIPE CUTTERS WRENCHES



—for Removing Heavy Fumes

MANY of the largest refiners are using Burt Fan Ventilators, direct connected or belt driven, for definitely clearing the air in Pumping Stations, Boiler Houses, Gasoline Plants and other buildings.

It is a correctly designed, factory built ventilator insuring economical, quiet operation and long life.

Burt engineers have studied and handled ventilating problems for every type of building in the Gas and Oil Industry. There is a size and type of Burt ventilator for every job.

By putting your ventilation up to Burt, you can get the advantage of thirty-five years of experience in this line.

Send for Complete Ventilator Catalog.

BURT
Cross Oil Filter

Burt oil filters are cutting lub icating costs in thousands of plants. There is a type for every purpose and capacity.

BURT
Glass Top
Ventilator

Burt metal or glass top ventilators with sliding sleeve dampers are the leaders of the industry. Complete details of design and construction will prove their superiority.

BURT
Exhaust Heads

Save roofs, buildings and boilers and they las: a lifetime. Made in two tynes and all sizes.

The BURT MFG. Co.
Ventilators-Oil Filters-Exhaust Heads
929 S. High St. Akron, Ohio

GULF COAST
Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Spindletop	36,132	1,120,092
Saratoga	1,049	32,519
Batson	1,416	43,896
Goose Creek	7,246	224,626
Sour Lake	3,496	108,376
Hull	11,606	359,786
Big Creek	1,914	59,334
Columbia	8,232	255,192
Humble	3,835	118,885
Dewalt	150	4,650
Pierce Junction	10,126	313,906
Blue Ridge	6,649	206,119
Markham	200	6,200
Orange	4,272	132,432
Damon Mound	841	26,071
Day on	227	7,037
South Liberty	3,075	95,325
High Island	260	8,060
Moore's Field (Orchard)	72	2,232
Boling	2,750	85,250
Nash Dome	1,998	61,938
Barbers Hill	737	22,847
Total	106,283	3,294,773

WYOMING
Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Big Muddy	2,716	84,196
Byron	47	1,457
Dallas-Derby	254	7,874
Dutton Creek	...	...
Elk Basin	1,057	32,767
Ferris	92	2,852
Grass Creek	2,391	74,121
Greybull	17	527
Hamilton	1,195	37,045
Hudson	360	11,160
La Barge	796	24,676
Lance Creek	712	22,072
Lost Soldier	3,868	119,908
Oregon Basin	837	25 947
Osage	369	11,439
Pilot Butte	...	...
Poison Spider	176	5,456
Rock Creek	2,489	77,159
Salt Creek	37,893	1,174,683
Simpson Ridge	50	1,550
Total March	55,319	1,714,889
Total February	55,117	1,598,621
Difference	202	116,268

MONTANA
Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Cat Creek	1,764	54,684
Kevin Sunburst	9,645	298,995
Lake Basin	143	4,433
Total March	12,552	358,112
Total February	11,712	329,679
Difference	840	18,433

COLORADO
Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Craig	1,527	47,337
Fort Collins	3,463	107,353
Florence	1,194	37,014
Iles	1,626	50,406
Tow Creek	433	13,423
Walden	...	...
Pangely (est.)	105	3,255
Boulder (est)	25	775
Total March	8,373	259,563
Total February	8,021	232,625
Difference	352	26,938

NEW MEXICO
Daily Average and Monthly Production in March

	Dly. Av. Bbls.	Month Bbls.
Artesia	1,233	38,223
Maljamar	205	6 355
Hog Back	516	15.996
Rattlesnake	135	4.185
Table Mesa	148	4,588
Total March	2 237	69.347
Total February	2,063	59.981
Difference	174	9,366

ENGLAND'S I ONE WELL PRODUCED 20,000 BBLS.

England continues to be interested in its lone oil well. Arthur Wade, D Sc. A.R.C.Sc., member of the Institute of Pet oleum Technologists, has just read a paper before that institute from which the following facts are taken:

Oil in quantity was struck in Hardstoft No. 1 well in Derbyshire on the night of May 27, 1919, at a depth of 3,070 feet, in a sandy limestone near the top of the main Carboniferous limestone sequence. H. P. W. Giffard states that the producing horizon is 2 feet in thickness, but there is nothing in the drilling records to confirm this. E. L. Ickes states that the production was obtained from beneath a hard shell at the top of the Mountain limestone in a sandy limestone member probably not more than 5 feet thick. On the other hand, the dr llers log "sand" down to 3,085 feet, which indicates a producing horizon, possibly 15 feet in thickness. This uncertainty is characteristic of the records with regard to this well. Between that date and December 31, 1927, the well has produced approximately 2,500 tons of oil, or about 20,000 United States barrels—an average of about 6 bbls. a day for over eight years, which compares favorably with the official statements of the daily average yield of producing wells in the United States.

The oil is of very good quality and resembles Pennsylvanian crude. It is of light gravity and has a paraffin base. The oil is dark brown in color with green flourescense. Giffard states that "an important feature of this oil is the presence in the lubricating fractions of a high percentage of oils suitable for steam-cylinder lubrication, which have hitherto been obtained almost exclusively from Pennsylvanian crude."

It was originally intended to shoot the well, as is usual with wells in limestone in the United States, but it was prevented by the fact that the carriage of nitroglycerin over public roads in England is prohibited by law. In the circumstances it is remarkable that the well produced and continued to produce as much oil as it has done. The conditions existing at the bottom of the hole have never favored a full and free flow of oil into the well, and have tended to promote waxing and silting. On the advice of A. Frank Dabell and Doctor Henderson the well was cleaned out as well as was possible in 1923, the result being a rapid rise in production during the years 1924 and 1925—the highest yearly yield being recorded in the latter year, that is to say in the sixth year of its life, which is again an abnormal feature. Nos. 2 and 3 Hardstoft were dry.

To come to the conclusion that the first bore to be commenced under the government scheme for the purpose of seeking for oil in England struck the only large supply that exists, or can possibly exist, would be absurd, says Mr. Wade. "Such a borehole is but a pinprick on the surface of the country and to imagine that such a pinprick discovered all that is to be found in the length and breadth of only the Northern Midlands would be to imagine a vain set of improbabilities. If my reasonings are correct it is almost certain that more oil is to be obtained, possibly in larger quantities than those already yielded by No. 1 Hardstoft, along the same fault plane and at the same horizon.

SKELLY BUILDING LINE TO THE HENDRICKS POOL

PECOS, Tex., Apr. 28.—A pipe line from the Hendricks Pool in Winkler County to Pecos was started this week by the Skelly Oil Co.. Six-inch pipe will be laid with a capacity of about 12,000 bbls. daily. The line will terminate in a loading rack adjacent to the Texas & Pacific and the Santa Fe Railroads at Pecos. A crew of men is at work staking off the line and it will be completed in about three weeks.

CALIFORNIA CO. TO DALLAS

SAN ANGELO, Tex., Apr. 28.—The California Co. has announced removal of its West Texas offices from Colorado to Dallas. Officials of the company were in San Angelo recently, the party being composed of J. M. Atwell and M. E. Lombardi of San Francisco, G. N. Larson of Billings, Mont., and Warner Clark and William Simpson of Colorado The move is expected to be made about June 1. twenty employes being transferred, including members of the land and lease, geological and accounting divisions. Mr. Clark is manager of the office and Mr. Simpson is field superintendent.

This company is one of the oldest producing companies in West Texas, having producing property in Mitchell County before the Santa Rita well in Reagan County opened the oil fields in that area in May, 1923.

The California Co. has established the Pasotex refinery and is laying a pipe line from El Paso to Winkler County. It is possible the line will be laid to the Pecos County Field later.

Make Your Next Drilling Valve
A Kerosene Tested Valve
Think of the guaranteed protection of a valve that is subjected to a continuous maximum pressure test for 24 hours with Kerosene as the testing fluid before it is sent to the oil fields and you think of Kerotest.
The penetrating qualities of Kerosene will seek out and reveal the most minute flaw in the steel and when used under this high pressure forms the most severe test ever attempted by a valve manufacturer.
Kerotest is the only valve so tested—the only valve whose strength is proved beyond a doubt before being used on an oil well.
KEROTEST MANUFACTURING COMPANY
PITTSBURGH PENNA.
Manufacturers of Drilling Valves, Refinery Valves, Flow Line Valves and Heavy Duty Fittings for oil fields.
Carried in Stock and Sold by
GRINNELL CO. OF THE PACIFIC
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OIL WELL SUPPLY COMPANY
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DRILLING VALVES
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FLOW LINE VALVES
HEAVY DUTY FITTINGS

Refining Equipment

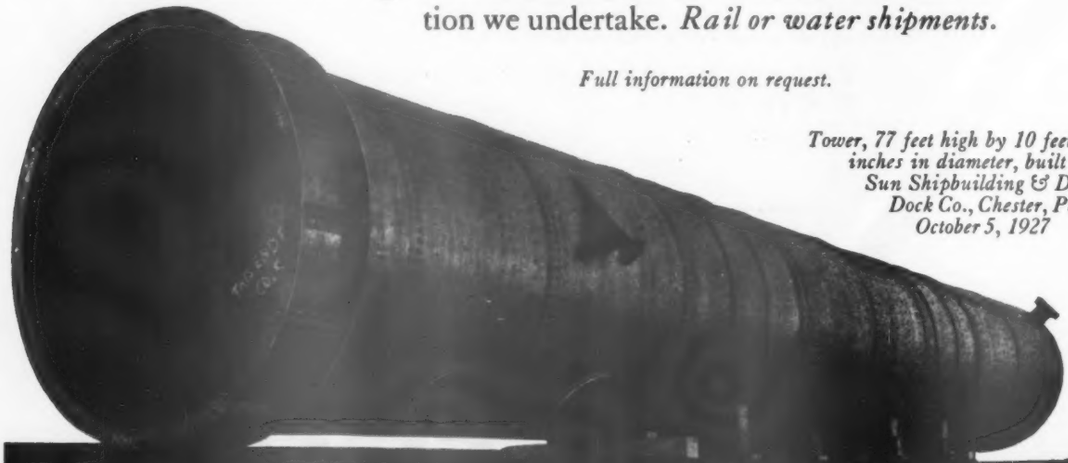
of Every Description

TOWERS of all types **STILLS** **CONDENSERS**
HEAT EXCHANGERS **TANKS** **AGITATORS**
STILL BOTTOMS **ANGLE WORK**
FABRICATED PLATE WORK
Etc. . . Etc. . . Etc. . .

THE SUN PLANT in Chester, Pa., has one of the largest and best equipped boiler and tank shops in the country . . . as well as unsurpassed Machine Shops, Pattern Shops, Foundry, Forge and Angle Smith Shops, Pipe Shop, Steel Fabricating Shop, Erecting Shops, Coppersmith Shop, Electric Welding . . . exceptional facilities for building superior refining equipment under one general supervision.

Years of experience and accomplishment, ample resources and advanced manufacturing methods insure success in whatever construction we undertake. *Rail or water shipments.*

Full information on request.



Tower, 77 feet high by 10 feet 6 inches in diameter, built by Sun Shipbuilding & Dry Dock Co., Chester, Pa., October 5, 1927

Sun Shipbuilding & Dry Dock Co.
CHESTER, PENNSYLVANIA

1000 feet 11″ hole 40 hours

cost 3 cents per foot

K-P

THE LINE OF LEAST RESISTANCE

STRAIGHT-HOLE Rotary Drilling Bit

—made this speed and low cost record. A 1000 feet of 11″ hole in 40 hours, passing another well by 100 feet that was started 5 days previously, is the record made by the Klingensmith Drilling Company at Pearson Switch, Okla., with three sets of K-P self-sharpening cutters in a K-P *Straight-Hole* Bit. *This thousand feet cost Klingensmith only $30.00 for K-P self-sharpening cutters.* The total footage was made in three round trips.

Kennedye-Plumb Corp.
Railway Exchange Building
ST. LOUIS, MO.

Sold by every
"Continental" — "National" — "Oil Well" supply company branch store.

KANSAS WILDCATS

(Continued from Page 44)

GREENWOOD COUNTY

Carnes & Bly's No. 1 Smith, NE cor. SE, Sec. 4-24-13 ..Dry and abd., 1,801 ft.
Eureka Oil Co.'s No. 1 Brothers, SE cor. NW, Sec. 35-23-11 ..Drlg., 2,489 ft.
C. A. Devine's No. 1 Bradford, SW cor. NE Sec. 22-26-11 S.D., 600 ft.
Hanley et als' No. 1 Peterson, NW cor. NE SE, Sec. 4-26-13 ..Drilling 500 ft.
C. E. Hawk's No. 1 Leesman, SE cor. SW Sec. 14-21-10 ..Dry and abd., 2,197 ft. completed
R. H. Hood et als' No. 1 Butler, C SE SE Sec. 15-26-11 ..Drlg., 650 ft.
T. C. Johnson's No. 1 Knox, NE cor. NW, Sec. 8-23-13 ..S.D., 1,705 ft.
Kismet Oil Co.'s No. 1 Richardson, SW cor. NE SW, Sec. 26-22-11 ..Location.
O. W. Culy et al's No. 1 Hoover, NE cor. SE, Sec. 15-27-13 ..Drlg., 200 ft.
Rockhill et als' No. 1 Jones, SW cor. NE, Sec. 21-26-13 ..Rig.
Sharpless et als' No. 1 Corper, SW cor. SE SE, Sec. 22-23-12 ..S.D., 1,310 ft.
Smith & Rockhill's No. 1 McDair, NW cor. SE Sec. 20-26-12 ..Dry and abd., 1,908 ft.

HARPER COUNTY

Amerada Pet. Corp.'s No. 1 Mendiville, C SE SE, Sec. 24-34-6w ..Drilling 4,960 ft.
Sam Jarvis' No. 1 Wyckoff, SW cor. NW Sec. 11-34-4w ..Drlg., 4,570 ft; flat hole; will shoot to straighten.
Sam Jarvis' No. 1 Warneke, SE cor. SW Sec. 4-34-3w ..S.D., 4,207 ft.

HARVEY COUNTY

Roxana Pet. Corp.'s No. 1 Haury, NE cor. SW SE Sec. 11-23-2w ..Rig.

JEFFERSON COUNTY

Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17 ..Rigged up and S.D.

KINGMAN COUNTY

James Madison's No. 1 Ballein, SW cor. NW NW Sec. 21-28-5 ..Drlg., 3,610 ft.

LANE COUNTY

Robinson et als' No. 1 Dickerson, SW cor. NW SE Sec. 11-18-27w ..S.D., 2,625 ft.

LOGAN COUNTY

W. H. Koons' trus., No. 1 Edwards, NW cor. NW, Sec. 14-14-33w ..Corrected to 3,855 ft; dry and abd

MARION COUNTY

Anderson Bros.' No. 1 Benth, SE cor. SW SW Sec. 31-18-5 Dry and abd., 2,620 ft.
Franks et als' No. 1 Wright, SW cor. NW NW Sec. 9-14-4 Rig.
Givens et als' No. 1 Ucker, SW cor. NE, Sec. 31-17-4 ..U.R., 1,820 ft.
Graham Bros.' No. 1 Nelson, NE cor. SE, Sec. 30-17-5 ..Sand, 2,295-2,380 ft; pumping 30 bbls; completed.
T. C. Johnson's No. 1 Thompson, SW cor. NE, Sec. 26-17-4 ..Chat, 2,329-41 ft; fish. csg.
Raymond Gear's No. 1 Larson, NW cor. SW NW Sec. 18-21-4 ..Spudded.
Sun Ray Oil Co.'s No. 1 Lehrman, SW cor. NE SE Sec. 1-21-4 ..Drlg., 3,280 ft.
Shearer & Reardon's No. 1 Strouse, SW cor. NW NE, Sec. 14-18-4 ..Rig.

MEADE COUNTY

Blackwell O. & G. Co.'s No. 1 Beyer, SE cor. NW SE, Sec. 9-33-28w ..Drilling 3,475 ft.

MITCHELL COUNTY

Ben Gurley et als' No. 1 Crombil, C NE NE, Sec. 32-9-7w ..Rig.

MORRIS COUNTY

Cress & Hawley's No. 1 Grendier, NW cor. SE Sec. 16-15-5 ..Fish. tools, 1,400 ft.
Hugh Faulder's No. 1 Wendt, SW cor. SE SE, Sec. 18-15-5 ..Rig and tools.
Fisher & Louck's No. 1 Stroda, NW cor. SE, Sec. 6-16-5 ..Dry and abd., 2,659 ft.
Franks & Farrell's No. 1 Wendland, SW cor. SE NE, Sec. 20-16-5 ..Drlg., 1,773 ft.
Graham Bros.' No. 1 Nelson, NE cor. SE Sec. 30-17-5 ..Drlg., 1,420 ft.
Matthews et als' No. 1 Walters, SW cor. NE Sec. 14-15-5 Drlg., 720 ft.
Moss & Nelson's No. 1 Smith, SW cor. SW Sec. 18-16-5 Rig.
Skelton et al's No. 1 Iles, NW cor. NW Sec. 25-16-5 ..Rig.

McPHERSON COUNTY

Phillips Pet. Co.'s No. 1 Wright, SW cor. NW NW, Sec. 9-19-4 ..Drlg., 500 ft.
D. I. Hall's No. 1 Gray, NW cor. SE NW, Sec. 20-20-3w ..Spudded and S.D.
John Heron's No. 1 Vosshell, NE cor. NE Sec. 9-21-3w ..Spudded.
J. W. Lamer's No. 1 Lamer, SE cor. SW, Sec. 1-17-3w ..U.R., 3,495 ft.
Gurley & Lamer's No. 1 Paulsen, SE cor. NW, Sec. 6-19-2w ..Drlg., 1,815 ft.
The Texas Co.'s No. 2 Chinberg, NE cor. NE NW Sec. 32-18-2w ..Sand, 2,343-77 ft; swbd. 25 bbls
Danciger Oil Co.'s No. 1 Willem, NW cor. SE SE, Sec. 6-22-4w ..Rig abd.

OSBORNE COUNTY

Prather-Davis-Krueger's No. 1 Pruter, SW cor. SE Sec. 30-9-15w ..S.D., 2,360 ft.

PAWNEE COUNTY

Frank Hopper et als' No. 1 Seifers, NW cor. SW NE, Sec. 23-21-11w ..S.D., 4,170 ft.
F. C. Troupe's No. 1 Lovett, CEL NE NE, Sec. 3121-16w S.D., 1,700 ft.

POTTAWATOMIE COUNTY

I. J. Crawford's No. 1 College, CWL SW NE Sec. 11-10-12 S.D., 2,250 ft.

RENO COUNTY

Danciger O. & R. Co.'s No. 1 Williams, NW cor. SE SE, Sec. 6-22-4w ..Moved in tools.
Stearns-Streater & Marshall's No. 1 Crabb, SE cor. SW NE, Sec. 1-25-8w ..Rig abd.

RICE COUNTY

Allison & Fitzwilliams' No. 1 Poland, NE cor. SW NE, Sec. 36-19-8w ..Cellar.

RILEY COUNTY

Mutual Oil Co.'s No. 1 Marks, SE cor. NE NW, Sec. 26-10-6 ..S.D., 2,400 ft.

ROOKS COUNTY

I. C. Findeiss' No. 1 Catudal, NW cor. SE SE, Sec. 23-10-19w ..Rig.
Keys Pet. Co.'s No. 1 Rathburn, NE cor. SW, Sec. 14-9-16w ..S.D., 3,030 ft.
Krueger et als' No. 1 Poore, NE cor. NE, Sec. 14-8-16w ..Spudded and S.D.
Stearns & Streather's No. 1 Matheson, NE cor. SE NW, Sec. 28-10-16w ..Drlg., 3,462 ft.

RUSH COUNTY

Valerious & Chenney's No. 1 Sheverman, NW cor. SE NW, Sec. 27-17-17w ..Spudded and S.D.

RUSSELL COUNTY

Douglas Oil Co.'s No. 1 Stoppel, SE cor. SW NE, Sec. 25-14-11w ..Rig.

SALINE COUNTY

Mente O. & G. Co.'s No. 1 Muir, SW cor. SW, Sec. 17-15-2w ..U.R., 3,205 ft.

SEDGWICK COUNTY

Bu-Vi-Bar Pet. Co.'s No. 1 Wright, SE NE SE, Sec. 12-26-1w ..Drlg. 750 ft.

SEWARD COUNTY

T. B. Slick's No. 1 Pyle, NE cor. NE, Sec. 14-33-33w ..S.D., 3,200 ft.

SHERMAN COUNTY

A. L. Henson et als' No. 1 Murry, NE cor. SE NW, Sec. 22-7-4w ..S.D., 2,650 ft.

SMITH COUNTY

Smith & Buchner's No. 1 Rice, SW cor. SW, Sec. 13-5-15w ..Rig.

STRATFORD COUNTY

Randall-Johnson's No. 1 Richardson, NW cor. SW, Sec. 24-22-11w ..Spudded and abd.
Kismet Oil Co.'s No. 1 Richards, SW cor. NE SW, Sec. 24-22-11w ..Location abd.

SUMNER COUNTY

Helmerich & Payne's No. 1 Broadhurst, SE cor. NE NE, Sec. 15-33-2e ..Timbers.
Otstot et als' No. 1 Barlow, SE cor. SE, Sec. 22-33-3w ..S.D., 1,860 ft.
Gypsy Oil Co.'s No. 1 Douglas, NE cor. SE NW, Sec. 23-34-2w ..Top Wilcox, 4,493 ft; T.D 4,50[illegible] ft; estimated 200 bbls; S D

TREGO COUNTY

Central Commercial Oil Co.'s No. 1 Ellis, NE cor. SW NE, Sec. 20-13-21w ..Spudded and S.D.

WABAUNSEE COUNTY

Empire G. & F. Co.'s No. 1 Schusem, SE cor. SE, Sec. 19-12-11 ..Fish., 3,320 ft.

WHO IS USING SHAFFER BOILER GAUGE COCKS?

. . . Oil Well, Farrar & Trefts, Broderick, Donovan, Kewanee, Lucey and Titusville on all the oil field boilers they manufacture.

. . . Oil Companies from the smallest to the great companies operating throughout the world.

. . . by contractors and independent operators.

We also manufacture the Shaffer Stationary Boiler Gauge Cock with chain attachment to operate from the floor. *Try a set.*

J. E. SHAFFER CO.
316 Mid-Continent Bldg.
Tulsa, Oklahoma

Price $2.25

All Parts Are Interchangeable

Made in two sizes, ½ or ¾ inch.

Furnished with special all-metal wheel. Extra wheels 25c each.

SHAFFER
the Standard Boiler Gauge Cock

Tnemecol
PIPE LINE PAINT

for longer-lived lines

Maintenance of pipe lines is one of the heaviest loads carried by gas or oil operators. Anything that prolongs the life of pipe lines will bring tremendous economies.

TNEMECOL Pipe Line Paint, like the same manufacturer's Tnemec Paint, is a paint of unrivalled toughness and durability especially designed to protect underground pipe lines.

TNEMECOL is water-proof, acid-proof and alkali-proof. It gives a glossy, elastic coat that will not crack, rub, peel or scale off. It is applied with ease and spreads over 300 to 400 square feet per gallon.

Sold by all CONTINENTAL stores, in any quantity from a barrel to a carload.

TNEMEC Ideal for Galvanized Iron

Most paints will not adhere to galvanized iron, when it is new. When it is rusty, ordinary paint will not hold unless the rust is first removed.

TNEMEC has proved an ideal paint for galvanized iron. Its Cement pigment has certain natural qualities that overcome both of these difficulties. Rust need not be removed, as the Cement in TNEMEC Paint absorbs and neutralizes rust. A trial will convince.

TNEMEC Floor Paint

TNEMEC Floor Paint is a super-durable floor paint, which we can highly recommend for all kinds of floors, whether wood, cement, or of special compositions. It is especially recommended for cement floors. Unpainted cement floors shed a fine dust, soak up oil and grease, deteriorate and wear. TNEMEC Floor Paint gives full protection against all these evils. One gallon gives two coats for 250 to 300 square feet of floor.

"If CONTINENTAL Sells It, There Is No Better"

A galvanized iron hangar painted with Tnemec Paint.

Applying Tnemec Floor Paint in a Mid-Continent plant of a leading refining company.

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CONTINENTAL

Big Leasing Campaign in New Mexico

Theory Widely Held That Southeastern Counties Contain Extension of Winkler, Texas, Pay. Large Gas Wells

By James McIntyre

ROSWELL, N. Mex., Apr. 27.—Within a region 125 miles north and south and about 40 miles east and west taking in all of Lea County and a good portion of Roosevelt County, in New Mexico, is one of the largest and most swiftly moving wildcat leasing campaigns in the history of the oil business. It has been going on for two years but the momentum did not begin to be rapid until the Winkler County, Texas, Field assumed real importance. If it is slowing up it is only because there is not much unleased land left in the most favored area, southern Lea County, which is supposed to be a part of the great Permian Basin in which the Hendricks Pool in Winkler County is situated.

Lea County contains more than 2,800,000 acres and more than half of this, or from Lovington down to the Texas line is all regarded as favorable territory, with the east side of the county as the particular hot spot most favored. But in addition to this there is a leasing campaign on in Roosevelt County, north of Lea County, extending from the Amerada Petroleum Corp.'s block which takes in most if not all of Township 3s, Range 35e, down to the Lea County line. The north half of Lea County is just now being gone over by leasers for some of the larger oil companies and unless something develops that will discourage further leasing it promises to receive a lively play, but perhaps not to the extent that the south half enjoyed.

Prominent Oil Companies

Prominent in the leasing are the Gypsy Oil Co., Humble Oil & Refining Co., Amerada Petroleum Corp., Midwest Oil Co., Prairie Oil & Gas Co., Skelly Oil Co., Pure Oil Co., The Texas Company, Texas Pacific Coal & Oil Co., J. Edgar Pew, the Ohio Oil Co., the California Co., the Marland Oil Co., Roxana Petroleum Corp., Empire Gas & Fuel Co. and subsidiaries, Mid-Continent Petroleum Corp., Devonian Oil Co., Magnolia Petroleum Co. and others. These companies have risked millions in the hope that Lea and Roosevelt Counties will be added to the oil column.

Some of the acreage holdings are very large. The Marland Oil Co. is credited with controlling over 500,000 acres. The Texas Company 300,000 acres. The Gypsy Oil Co. has leases on more than 120,000 acres and the Humble Oil & Refining Co. 153,000 acres.

Operating Agreements

Many thousands of acres of southeastern New Mexico lands owned by the United States Government have been let out in permits to drill. A permittee is limited to 2,560 acres "on a structure" and to three permits within the State. Many of these permittees have entered into operating agreements with oil companies by which the oil company agrees to fulfill the permittee's end of the contract for a bonus consideration paid the permittee and a payment of a stipulated royalty over and above the royalty paid the Government on the primary and the secondary leases. The Government's royalty on the primary leases is 5 per cent of the sale price of the oil and gas production, and on the secondary leases 12½ per cent. The matter of primary and secondary leases is explained in an accompanying article under a Santa Fe date line on page 121 of this issue.

Leases in Lea County have cost their owners all the way from a few cents per acre to $500 per acre, ($250 cash, $250 oil). The wide variation in price depended upon the time at which the leases were purchased and their location in respect to drilling wells. The highest price paid was for a lease near The Texas Company's big gasser in the extreme southeastern corner of the county.

Many hundreds of thousands of acres of leases had been closed before the first showing of oil was found in The Texas Company's No. 1 Rhoades, in Section 27-26-37, about 2½ miles north and 5 miles west of the Texas state line in the southeastern part of Lea County. This well gauged 22,500,000 feet of gas and about 100 bbls. of oil at a depth of about 3,210 feet.

The development of the pools in Winkler County, Texas, caused the rush into Lea County. It prompted the drilling of The Texas Company's test above mentioned and the showing of that well has stimulated the thought that somewhere in Lea County there are pools one or more of which may compare with the Hendricks Pool in Winkler County in size and volume of output.

Geophysics Play Big Part

All this tremendous investment in acreage was not done unadvisedly. Geologists and geophysicists representing the companies interested have gone over Lea and Roosevelt Counties—particularly the former county and on the basis of their findings the main leasing plays of the larger acreage buyers were made. However, the map of Lea County shows nearly every company with protection acreage as close as could be had to the main play of the other companies, all of which checkerboards the county south of Lovington pretty thoroughly. The torsion balance and magnetometer have been and are yet being freely used and some work has been done with the seismograph and geophone. Geophysical work has been done mostly by the Amerada Petroleum Corp., Roxana Petroleum Corp., Humble Oil & Refining Co., Gypsy Oil Co., and Midwest Oil Co.

As yet there is no such a thing as a geological conclusion as to the territory, and geological opinion is a jumble of ideas. Subsurface conditions vary as they do in West Texas and geologists are at sea on a number of points which they would give much to clear up at this early stage of the exploration of the territory. The magnetic "highs" have been made good use of in the leasing of land, but these highs are matters of individual interpretation of the showings of the instruments. They may be right and they may be wrong. And here we come to the old bromide that only the drill will tell.

Log of Rhoades Well

Following is a log of The Texas Company's No. 1 Rhoades, Section 27-26s-37e in Lea County, southeastern New Mexico, which came in a 22,500,000-foot gas well with a 100-bbl. showing of oil. The well was shut in. It greatly stimulated leasing operations in Lea County and made northern Winkler County, Texas, appear more favorable as an oil-producing region.

Feet	
0-1,030	red beds.
1,031-1,095	anhydrite.
1,096-1,110	gyp.
1,111-1,140	anhydrite.
1,141-1,220	salt.
1,221-1,265	anhydrite.
1,266-1,280	red sandy shale and a little salt.
1,281-1,300	salt.
1,301-1,320	sample missing.
1,321-1,330	salt and anhydrite.
1,331-1,380	salt.
1,381-1,410	red sand and salt.
1,411-1,520	salt.
1,521-1,530	red-brown shale.
1,531-1,590	salt.
1,591-1,600	salt and anhydrite.
1,601-1,620	salt.
1,621-1,640	anhydrite.
1,641-1,720	salt.
1,721-1,730	anhydrite.
1,731-1,750	anhydrite and salt.
1,751-1,940	salt.
1,941-1,950	anhydrite.
1,951-1,980	salt.
1,981-2,000	anhydrite.
2,001-2,260	base of upper salt?
2,261-2,290	anhydrite.
2,291-2,300	salt.
2,301-2,330	anhydrite.
2,331-2,350	salt.
2,351-2,390	anhydrite.
2,391-2,460	salt.
2,461-2,510	anhydrite.
2,511-2,700	salt.
2,701-2,720	anhydrite.
2,721-2,750	anhydrite and a little limestone.
2,751-2,760	reddish sandy anhydrite.
2,761-2,770	anhydrite and reddish sandy anhydrite.
2,771-2,775	sample missing.
2,776-2,790	anhydrite and a little limestone.
2,791-2,800	anhydrite.
2,801-2,803	anhydrite and limestone.
2,804-2,840	dolomite (brownish), limestone and anhydrite.
2,841-2,850	anhydrite and gray sand.
2,851-2,890	anhydrite and a little gray sand.
2,891-2,910	anhydrite and red and gray sand.
2,911-2,985	anhydrite and red sand.
2,986-3,000	anhydrite and red and gray sand.
3,001-3,010	sand, limestone and anhydrite.
3,111-3,030	sand and limestone.
3,031-3,190	sand, a little limestone and a little anhydrite.
3,191	top of limestone?
3,210	gas blowout. Well estimated at 22,500,000 cubic feet of gas with reported showing of oil.

The general play in eastern Lea County has been based in part, at least, on two groups of factors. To the south is the Winkler Pool and to the north and northwest is the older Maljamar Pool, centering around the northwest corner of Township 17s, Range 32e, in Lea County. Between these two areas sufficient wells have been drilled to show a strong likelihood of structurally high areas. Sufficient control is not yet available to make it possible to say whether or not the alignment of any probable highs will have the strike of the Winkler Pool. It is believed by many of the geologists in southeastern New Mexico that in a considerable part of Lea County the Winkler pay horizons are present. The wells drilled to date in Lea County have shown a very complicated stratigraphic situation. Very rapid lateral gradations in lithology have been shown in a marked degree. Because of this situation it has been necessary for the geologists working the area to obtain and keep very complete sets of well cuttings. To date no well has been drilled in southeastern New Mexico that has established what might be called a type section. Each test may be said to represent a type section for its own immediate area only. It might be said that there is little or no surface geology in most of Lea County, the major portion of the area being covered either by a caliche cap rock or by dune sands. This has made geologic work almost wholly of a subsurface type and consequently accurate data are not available any faster than wells are drilled.

All Dry Holes Had Showings

A number of wells had been drilled in Lea County southeast of the Maljamar Pool deep enough to make them appear hopeless and they had the effect of turning attention away from Lea until the Winkler development became big

LEASING IN NEW MEXICO REQUIRES KNOWLEDGE OF VARIOUS LAND LAWS

SANTA FE, N. Mex., Apr. 27.—The leasing of state lands in New Mexico for oil and gas purposes has assumed such importance that the State Commissioner of Lands was asked to prepare a statement for The Oil and Gas Journal covering briefly the history of the department's relations with the oil industry and the conditions under which oil and gas leases may now be obtained. Charles H. Barker, legal adviser to the department, and well and favorably known to land department officials of many of the most important Mid-Continent and Rocky Mountain oil companies, at the request of The Oil and Gas Journal, supplied the following interesting facts which will be found of value to prospective applicants for New Mexican State leases.

The State of New Mexico was granted over 12,000,000 acres of land by the Congress of the United States, the land all being situated within the State. Of this the State still owns more than 10,000,000 acres. These lands are situated in all parts of the State. Some state land may be found in every township of the 3,400 townships in the State, not embraced within a private land grant or a government forest, Indian or other reservation. The State was granted four sections in each township: Sections 2, 16, 32 and 36, where such sections were not already appropriated or were not within the boundary of a reserve created by Congress. Where such appropriation or reservation of these four sections, or any of them, existed, the State was permitted to make selection of lieu or indemnity lands to the extent of such appropriation or reserve. In addition to this place and indemnity grant, which amounts to over 8,500,000 acres, numerous other grants in quantity were made for the benefit of the various State institutions to the extent of about 4,000,000 acres, and these quantity grants were satisfied by the selection of lands under the prescribed procedure in all parts of the State.

State's Lucky Selection

Fortunately for the State of New Mexico a very large area of indemnity and quantity lands were selected or located in the southeastern portion of the State, particularly in what is now Lea, Eddy and Chaves Counties. At the time of the selection of the lands there was no thought that they contained either oil, gas or other mineral, but since their selection oil and gas have been discovered in several locations in these counties on State-owned lands.

It became necessary that some policy of leasing the State lands for oil and gas prospecting should be inaugurated. Active leasing of State lands began in 1919 and has continued to the present time with the result that a considerable area of State lands has been tested and in a few cases oil and gas in paying quantities have been discovered. The Artesia Field was the first of any magnitude to be found on State lands and since the opening of that pool in 1922, other localities mostly in the southeastern part of the State have been drilled and in some cases production has been had either on State-owned lands or lands nearby.

The present administration of the public lands has worked out very carefully a system of leasing for oil and gas which, while satisfactory to the oil and gas interests, has produced and is yet producing a much-appreciated revenue to the State.

A form of lease has been adopted prescribing among other things a fixed rental rate to be paid annually during the term of the lease without regard to whether or not any development shall be undertaken and carried on. The lease grants a tenure of five years or as long thereafter as oil and gas, or either, is produced in paying quantity. It is further provided that in the event substantial expenditures are made during the five year term for the purpose of discovery of oil or gas, and no discovery is made, but valuable improvements shall have been placed on the lands by the lessee, the lessee shall be entitled to a preference right over any other applicant to a

(Continued on Page 123)

enough to again put the southeastern corner of New Mexico in the limelight. Henderson, Dexter & Blair drilled to 5,370 feet in the southwest quarter of Section 34-17s-33e; Inglefield-Bridges' No. 1 State, southeast quarter of Section 4-17s-34e, drilled to 5,329 feet and was plugged back to 4,755 feet where it made a 10-bbl. well. The Texas Company's No. 1 Jackson, southeast quarter of Section 4-20s-34e, was sent to 4 031 feet.

J. S. Covert's No. 1 State, northwest quarter of Section 15-21s-33e, was abandoned at 4,435 feet and The Texas Company's No. 1 Lockhart, Section 5-22s-38e, had a total depth of 4,507 feet before it was abandoned. These wells are far apart but all had encouraging showings of oil or gas or both.

Important Wells

The Marland Oil Co.'s well, locally known as the Eaves well, in Section 19-29s-37e, was reported on Thursday to have reached a depth of 2,885 feet, with a showing of gas developed at 2 860 feet. Ever since it resumed drilling late last week the neighborhood of the well has been an encampment of geologists, lease men and scouts anxious to be in at the finish of this test which is regarded as very important in its bearing on that part of Lea County. It lies about 3 miles west and a little south of The Texas Company's big gasser, locally known as the Rhoades well. It is believed to be high on the structure, but when drilling was resumed on Friday, April 20, there was much debate on the amount of hole that would have to be drilled to reach the lime pay, if it exists there. Some expected that it might be reached within 50 feet of the then total depth, while others guessed that from 200 to 500 feet of hole would have to be made.

A few miles south of the Marland Oil Co.'s Eaves well, Gibson & Johnson are drilling on public school land in Texas, with a large audience of interested oil men. This well is located in the C SW, Section 30, Block 74, 9 miles north of the Hendricks Pool in Winkler County, and this well has interested southeastern New Mexico oil men as much as it has Texas oil operators. If it develops commercial production it will open up about 9 miles of territory between it and the Hendricks Pool besides making the extreme southeastern end of Lea County look better. The last reports received here previous to the filing of this article had this mudding in 1,000,000 feet of gas found at 2,975 feet, total depth 2,987 feet, drilling to be resumed on the following morning. It had a showing of oil at 2,851-66 feet, sufficient to be noticeable in the circulating returns (the well is a rotary test). At 2,934 feet, 200 feet of sulphur water was reported in the hole. A core was made from 2,964 to 2,977 feet, in gray lime, but the only showing was a little increase in the gas and no oil. Drilling was resumed and a core was taken from 3,024 to 3,040 feet in gray lime with a showing of oil and gas. It was believed that this was the first Winkler pay and that the second Winkler pay would be found at 3,150 feet. The hole was being bailed at 3 070 feet when it began cleaning itself out and began blowing gas at the rate of 20,000,000 feet per day.

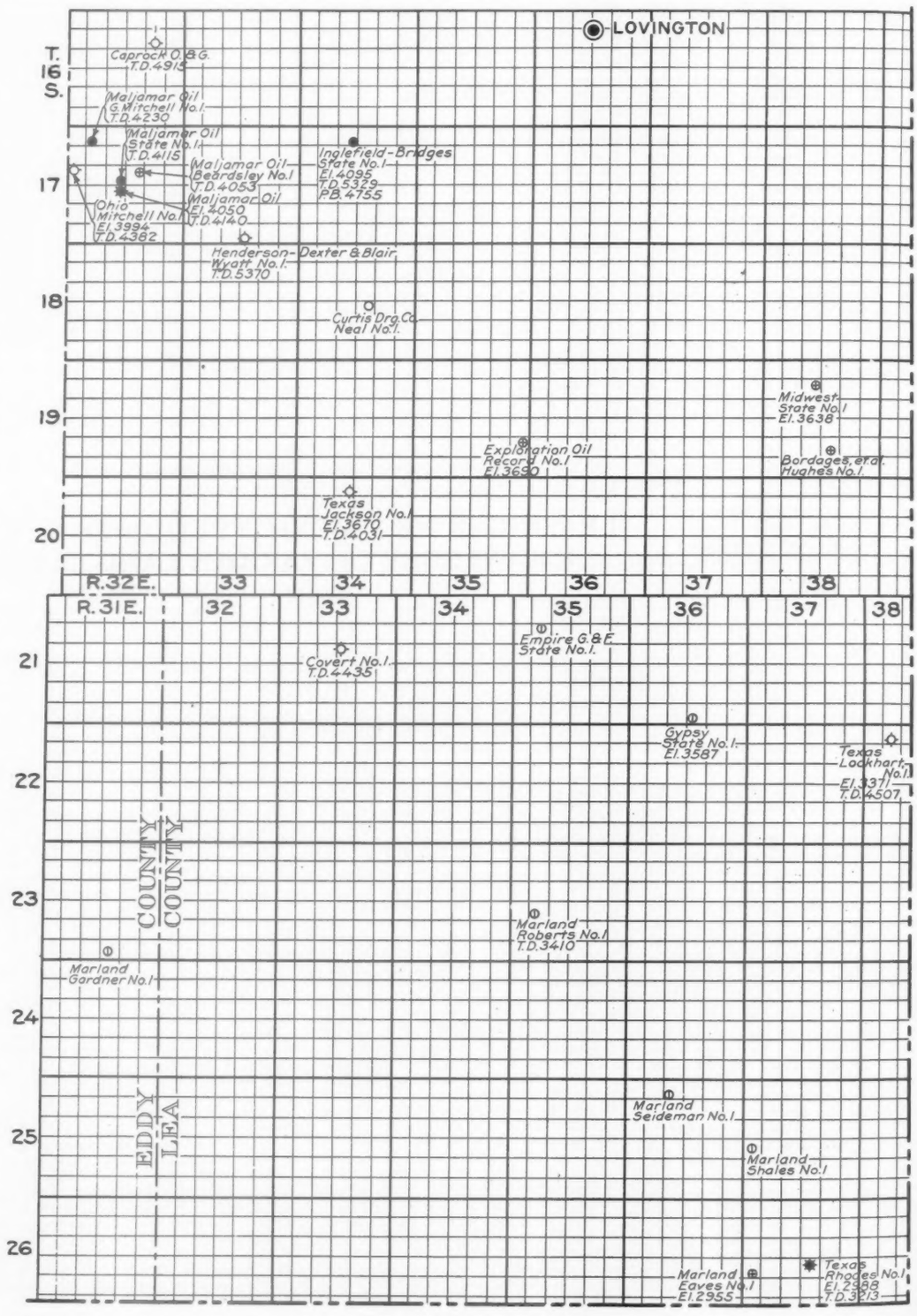
Between 40 and 50 miles north and a little east of the Marland Oil Co.'s Eaves test are the Midwest Oil Co.'s test in Section 9-19s-38e, and Bordages & Christman's test in Section 27-19s-38e, both in Lea County. Bordages & Christman's test had enough gas at 3,110 feet to fire the boiler but has been troubled with one fishing job after another. The Midwest Oil Co.'s test is not as deep as the Bordages well but both are of great importance to the upper end of that part of the county in which the main leasing play has been made.

C. P. Bordages and E. C. Christman leased 6,000 acres and sold enough spreads out of it to drill the well in Section 27-19s-38e, and to give them what some men would consider a tidy fortune besides. Bordages was formerly an employe of the Humble Oil & Refining Co.

The Marland Oil Co. has a program of 10 or more tests in Lea County, and has already started four of them, but only one of the four has yet reached an interesting depth. The company's No. 1 Roberts, Section 20-23s-35e, was shut down at 1,510 feet. No. 1 Seideman, Section 4 25s-36e, was drilling at 1,500 feet. No. 1 Sholes, Section 19-25s-37e, was rigging up. The Gypsy Oil Co., although it has been busy for months leasing all the patented and State land it could pick up on the east side of the county, has located only one test, No. 1 State in Section 34-21s-36e, which is drilling below 600 feet. The Empire Gas & Fuel Co., in Section 8-21s-35e, has started drilling. These tests are all far apart and each a real wildcat with relation to the others.

The tremendous size of the territory being reviewed was emphasized by one company executive here when he said: "You must remember that here is a stretch as long as from Tulsa to the heart of the Seminole Field and wide enough to include all the fields in Tulsa, Creek, Okfuskee and most of Seminole Counties. One dry hole in a territory that large means nothing more than the condemnation of one small locality. If all the wells now drilling come in dry, it will only delay the work of exploration. It may take four years to find commercial production but it will take a lot of failures to convince us that Lea County is not an important potential oil region."

Lea County is about the most desolate area one could find in a week's motoring. There is a good highway crossing it from east to west, where it joins the north and south highway on which Roswell and Carlsbad are situated. But this good road in Lea County is no th of all the field operations and to visit the few wells drilling in Lea it is necessary to travel over cow paths and ruts made



Center of the big leasing campaign in Southeastern New Mexico. The map shows that part of Lea County, New Mexico, where most of the big companies operating in the Rocky Mountain and Mid-Continent Fields are wildcatting hopefully. The territory lies between the Hendricks Pool in Winkler County, Texas, and the Maljamar Pool in Eddy County, New Mexico. One well, The Texas Company's No. 1 Rhoades, in Section 23-26s-37e, started off at 50,000,000 cubic feet of gas and 100 bbls. of oil. It is shut in. This well acted as a great stimulant to an already notable scramble for leases.

by the trucks hauling in material. A round of the wells after leaving the main road means a rough ride of over 100 miles. It is a region of sand dunes, on which ranchmen have been trying to make a living raising cattle. The largest town is the county seat, Lovington, a hamlet of perhaps 500 inhabitants and this and the new town of Jal, in the extreme southern part of the county, built since The Texas Company's well came in, are the only towns in an area larger than some Eastern states.

Drilling by Electricity

Some of the wells being drilled by the Marland Oil Co. are equipped with electric motors. Big gasoline engines drive the generators. They are said to be working quite satisfactorily. At the Seideman well in Section 4-25s 36e a large Sterling marine engine which had been in use in gold-mining operations in Arizona was moved in and hooked up to a very complete electrical outfit. The rig has its own electric light and electric cooking outfit and the crew was optimistically looking forward to the day when they would have electric refrigeration in their camp. A well far out on the prairie in the northeast corner of DeBaca County is also being drilled by electricity and the camp and rigs are electrically lighted. A Hercules gasoline engine is used with this outfit in a compact unit. All these wells will be drilled 3,000 feet or deeper.

The wells drilling in the eastern part of Lea County are about 65 miles from the nearest railroad, a branch of the Santa Fe running from Clovis, N. M., to Pecos, Tex. All material and fuel must be trucked in at least 65 miles, and where the locations are south of the main highway the trucks must traverse the deep sand making their own tracks as they go. It is sometimes heartbreaking work to convey heavy drilling material and pipe to the wells and often requires the use of axe and spade in cutting down clumps of bear grass which are laid in front of the truck wheels to give traction. The bear grass is prickly stuff penetrating the skin with very painful effect, but it makes good road material in the Lea County desert.

Roswell an Oil Center

Coming out of Lea County into Chaves County, of which Roswell is the county seat, is like coming from the Sahara Desert into an oasis. The country around Roswell is dotted with farms and orchards. Irrigation is practiced on a large scale and along the road between Roswell and Carlsbad, New Mexico is at its best. Artesia, the first of southeastern New Mexico's oil towns, lies midway between the larger towns of Roswell and Carlsbad.

Roswell is the headquarters for a number of the larger oil companies. The big leasing campaign is in the counties adjacent to Chaves County, and Chaves and Eddy Counties have benefited by it, many leases having been taken on properties in those two counties.

Roswell, the second largest city in size in New Mexico, with a bona fide population January 1, 1928, of 9,456, is the business and banking center of southeastern New Mexico. Albuquerque is the only city in the State larger than Roswell. Wholesale houses of southeastern New Mexico are situated here.

The city is expanding its accommodations to meet the growing demand for houses, offices and hotel accommodations. Nearly a million dollars' worth of building is now assured for 1928, with much more in prospect. This includes a 55-room addition to the Gilder Hotel, a 50-room addition to the White office building, a $200,000 junior high school building, new buildings at the New Mexico Military Institute, and a large number of residences ranging from $3,500 to $20,000.

Roswell's mail service is the best in eastern New Mexico, with two mails daily from the east and north, two daily from the west and one daily from the south.

Good Roads in All Directions

There are splendid highways connecting the city with the Lea County oil fields, as well as exploration activities north of Roswell in Chaves, De Baca and Roosevelt Counties. There are also direct highway connections with the state land office at Santa Fe and the United States land office at Las Cruces. A bill is now in Congress to re-establish a federal land office at Roswell. It is said that practically all the legal work in connection with oil activities in southeastern New Mexico is done by Roswell attorneys.

Airplane service is available and a good landing field with runways, hangars, water, and telephone service is available for visiting planes. The field will be lighted within a short time.

Roswell is a delightful place to live throughout the year. With thousands of shade trees, beautiful homes, 175 blocks of paved streets, attractive lawns and flower gardens, it is a pleasing contrast to much of the treeless country of the Southwest.

The city has an excellent school system with six ward schools and a modern and complete high school. A junior high school building will be erected this year. It is also the home of the New Mexico Military Institute with an enrollment of 550 boys from all over the United States. This is a state school with the United States War Department having supervision of the military training. The courses include the last two years of high school and the first two years of college work.

A Summer Resort

Recreational advantages are stressed. The Roswell Country Club, in addition to its 15-acre artificial lake for swimming and boating, has a sporty nine-hole golf course with unusual hazards, including two treacherous water holes.

Three hours' west of Roswell over good automobile roads is the Lincoln national forest, the summer playground of the Southwest. There are hundreds of summer homes, several hotels and innumerable camping places at elevations of from 6,000 feet up to 12,003 feet—the height to which Sierra Blanca rises.

MUST KNOW LAND LAW TO LEASE IN NEW MEXICO

(Continued from Page 121)

new lease upon the same lands. The royalty to be reserved by the State in all cases is the customary one-eighth, with a provision for the free use of oil and gas for development purposes by the lessee.

The rental rates charged at the present time vary according to locality. The minimum rental is 50 cents per acre per year for the more active district which embraces all of Lea County and portions of Chaves and Eddy Counties. A stretch about 40 miles wide on the east side of the State and north of the 50-cent district carries a minimum rental rate of 25 cents and a district in the northwestern part of the State covering all of San Juan County and portions of Rio Arriba, Sandoval and McKinley Counties carry the 25-cent rental charge. All other portions of the State may be leased at a minimum rental of 5 cents per acre.

Lease Provisions

It is provided by the rules that no one lease may embrace more than 10,000 acres nor cover lands which will not fall within a 50-mile sqare. A fee of $5 for an application covering 5,000 acres or less and $10 for an application covering more than 5,000 acres is collected at the time the application is made. The minimum first year's rental or bonus which can be accepted is $100 in addition to the application charge. For lands lying outside the more active district, leases are issued without competition or public sale to the first applicant filling and tendering the fee and rental. The Commissioner of Public Lands has, however, recently put into operation special rules for the leasing of the State lands in Townships 11 to 20 south, Ranges 23 to 39 east and Townships 21 to 26 south, Ranges 27 to 39 east (all of Lea and the eastern portion of Chaves and Eddy Counties).

By these rules it is provided that leases may be made only upon sealed bids or at public action, the lease in all cases to be awarded to the highest bidder. Under this regulation the commissioner prepares a list of lands from time to time which are available for lease in the above-mentioned area and sets a time and place for receiving sealed bids. As much publicity as possible is given these sales. After the opening of the bids all the tracts upon which there have been no bids are put up at auction for lease to the highest bidder. The commissioner reserves the right to reject any or all bids whether sealed or otherwise.

This plan of leasing has thus far been satisfactory and acceptable to the oil men. Occasionally upon request or where conditions warrant, leases are offered at public auction after 10 weeks' notice has been given in a newspaper published in this city, the State capital, and sold to the highest bidder, if the bid is deemed satisfactory.

New Leases for Old

There had been several forms of leases issued by the State before the present form was adopted and it is provided by the statute of New Mexico that holders of those leases may surrender them by paying the prescribed $10 fee for each lease and obtain in place of them a lease or leases on the present lease form.

While the greater part of the State's 2,000,000 acres in the district above mentioned where leases are made only on sealed bids or at public auction, is now under lease, existing leases are terminated from time to time by expiration or for failure to pay the rental, and as such lands become available they are listed and offered on sealed bids in the manner already described.

A small portion of the State's lands have been sold and contract issued providing for the giving of deeds upon completion of the payment of the purchase price and in a few cases deeds have been issued. These deeds contain a special reservation to the State of all minerals contained in such lands, with the right to prospect for and recover such minerals. Lessees of these lands are required to file a suitable bond indemnifying the owners of the land for damages the lessees may cause to the surface by their operations. The minimum bond is $2,000.

Uncle Sam's Requirements

The United States Government is the owner of vast acreage in Lea and adjacent New Mexican counties and on most of such lands in southern Lea County permits to drill for oil and gas have been granted to men, women, firms and corporations scattered all over the United States. A permit to drill on a maximum of 2,560 acres is granted for a period of two years. The permittee agrees that within 90 days he will establish monuments or markers at each of the corners of the property and to post a notice of permit. He agrees to move an adequate drilling outfit onto the property within six months, and to drill a well at least 500 feet deep within a year and a well 2,000 feet deep within two years. The Department of the Interior has been very liberal in extending these permits in wildcat territory, but insists that when drilling commences it shall be with a bona fide drilling outfit and not a small spudder or water well machine.

If the permittee drills and develops oil or gas production he is required to pay the government 20 per cent of the amount received from the sale of such production until he applies for a lease. He is granted a lease on one-quarter of the area included in the permit, which carries a 5-per cent royalty, but is given a preferential right to the remainder of the acreage which carries a 12½-per cent royalty. These are called "A" leases and "B" leases. After he becomes a producer the permittee is obliged to operate the property according to departmental rules, to post a bond to indemnify the homesteader—if there are such occupants—and another bond of $5,000 to guarantee compliance with all the regulations. The regulations are many and exacting if they were literally enforced. The foregoing applies only to permits on what may be termed wildcat areas. On known geological structures leases are granted only on competitive bids. The highest bidder is granted the lease which covers not over 640 acres and the length of the property must not be more than 2½ times its width. These leases carry a 12½ per cent royalty and many operating requirements.

Leases on Patented Lands

Companies leasing patented lands use the regular Mid-Continent 88 form. The leases are for 10 years or as long thereafter as oil and gas are produced and carry a 12½ per cent royalty. The bonus price is a matter between the patentee and the oil company and recently some very generous prices have been paid for such leases where they were located favorably.

Inquiries Received By Pipe Mills From Gas Line Projects

By B. E. V. Luty

PITTSBURGH, Pa., Apr. 30.—Actual inquiries have appeared for line pipe for some of the natural gas lines long under project, and a large tonnage of such inquiry is now before the pipe mills, with prospects that some at least of the business will be placed shortly. The large line longest talked of is that to Kansas City, while there are projects also to pipe gas to Memphis, Omaha and St. Louis, the last named being the one of most recent origin. In a rough way it may be estimated that the four lines would require a total of 300,000 to 400,000 tons of pipe, and there is some other line pipe business, involving smaller tonnages, now under inquiry.

The pipe mills are rather in need of this additional business now in prospect as they have had relatively little line pipe business since early in the year. Demand for oil country goods in general was decidedly light last year and is similarly light this year, while the large amount of line pipe business last year enabled the pipe mills to have a fair operation. This year the mills started out with approximately a 70 per cent operating rate, this dropping to below 60 per cent in a few weeks as the line pipe orders were largely completed, while there was a rise in April to above 60 per cent, attributed to heavier shipments of standard pipe on orders placed in anticipation of the 5 per cent price advance announced at the beginning of the month.

The pipe mills have stood firm on this advance, covering customers only for limited periods, and insisting on the advanced prices on all new orders. There has been some confusion on account of reports that mills covered their customers for 60 days, or practically for April and May, whereas the rule was to cover for only 30 days. The large mills insist that if there was any covering for 60 days it was by small mills and was in the nature of shading prices, the rule being only 30 days, with specifications to be filed within five days, practically for April shipment. Fresh sales made since the advance have carried the advanced prices. Such sales are made to occasional buyers, including various manufacturers, regular jobbers being covered, and have amounted to a substantial tonnage, sufficient to show that the advance is in force, though it only now becomes effective as to jobbers, either on material jobbers buy to sell again or on mill consigned material carried by jobbers. In standard pipe this consigned pipe amounts to 60 to 70 per cent of all the pipe handled through jobbers. In oil country goods there is much less consigning.

Operation of the steel industry as a whole continues substantially as heavy as in March, which for four successive years was the peak month of the year in steel production and is altogether likely to prove the same this year, except that the official report may possibly show an insignificant increase for April. A particularly good showing has been made to date, since in previous years April showed a distinct seasonal decrease, but this is not taken as evidence that there will be more activity next summer than there was last. The matter is asso-

(Continued on Page 128)

Wide paved streets lined with large trees
Lake at Roswell Country Club
Two stories are being added to this building
An abundance of shade in Roswell
Main Bldg. Carrizo Camp and Summer School in White Mts.
Fifty-five rooms are being added to the Gilder

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NEW MEXI

Center of Busin

Development in Southea

Roswell, largest city in eastern New Mexico, second in size in the entire state—most beautiful city in the Southwest—is the center of the oil development work in Lea, Eddy, Chaves, De Baca and Roosevelt Counties. It is the distributing point and banking center for the southeastern portion of the state.

It is on the Santa Fe lines with direct passenger connections. There are four stages each way from Roswell east, four each way west, five each way south, and one making another connection with the Southern Pacific and the Santa Fe at Vaughn. Roswell also has a modern airport with airplane service for special trips. There are two mails daily from the north and east, two from the west and one from the south. There is efficient telegraph and long distance telephone service.

Excellent all-weather highways connect Roswell with every portion of New Mexico and with Texas. State highway No. 2 from Santa Fe to Carlsbad, state highway No. 13 from the Texas line east, and U. S. Highway 366 from Amarillo to El Paso pass through Roswell. Seventy thousand visiting cars were in Roswell in 1927.

Roswell is expanding to meet the growing need for homes, offices and hotel accommodations. Contract has been let for two additional stories on the White building, providing fifty more office rooms; work is in progress on a fifty-five-room addition to the Gilder hotel; and there are dozens of homes under construction. A million dollars' worth of building is now under contract for 1928 with much more in sight.

And it is a most delightful place to live. Winter and summer it appeals. With an annual rainfall of less than fifteen inches, three-fourths of this comes during the summer. But there's lots of water, thousands of large

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shade trees, beautiful lawns, and flower gardens. With 175 blocks of wide paved streets, attractive homes and substantial public buildings, Roswell immediately presents the appearance of a modern eastern city, transplanted into the bigness of the West. Pure and healthful city water in abundance, gas and electricity are available throughout the city. A modern sewer system serves the city and connects with a sewage disposal plant. A full-time health department, with doctor, inspector, technician and laboratory protects the health of the people. Roswell is a clean city. The streets are swept regularly, and even the alleys are kept clean.

There are a dozen active churches, most of which have commodious church homes, and there is an excellent and complete school system, with a modern high school, six ward schools, and a junior high school to be built at once at a cost of $200,000. Roswell is the home of the New Mexico Military Institute, a state school under Government supervision, with 550 boys from all over the United States.

Recreational opportunities are an outstanding feature in Roswell. The Country Club has a sporty golf course with grass fairways and treacherous hazards including two water shots. A fifteen-acre lake provides boating and swimming. Non-resident memberships are available at a small monthly charge and carry all club privileges. Three hours away over good highways is the Lincoln National Forest—summer playground of the Southwest. Here are hotels, furnished cottages, summer homes and camping sites. On the warmest of summer evenings fires are comfortable in the Lincoln National Forest. Near Roswell is good duck shooting, quail, deer and wild turkey. Write for a Roswell Way—an interesting magazine which tells you about Roswell.

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IMPORTANT INVESTIGATIONS UNDER WAY RELATIVE TO FILTERING CLAY

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Apr. 28.—For several years an investigation has been in progress that may cause a departure from former methods in the selection of filtering clay for refining petroleum. A group of scientists with headquarters in this city are making a detailed study of the chemical and physical properties of clays and this should lead to a determination of the factors that make a clay best adapted to this purpose.

Empirical knowledge has formerly been practically the sole foundation for the selection of filtering clay. Fullers earth, the best known of these substances, was long depended upon by the oil refiner. Clays of other types came into use and have been adopted for filtering purposes because they were found upon trial to be efficient mediums for accomplishing the results desired. They gained popularity by a gradual growth of reputation and the advance of information from one man to another about the filtering capacity and efficiency of these clays. But no one has known why a particular clay filters better than another. They do not even know the mineral and chemical qualities that make up the several substances that may be present in a clay and it is to gain this knowledge that systematic work is now being pursued.

This labor involves a long and detailed study and illustrates the way in which investigation in pure science can serve the oil industry It seems evident that only through the accumulation of such fundamental information can problems like the best filtering material for mineral, vegetable and other oils be solved. The research now in progress has grown from a small beginning, but it has pointed the way for the need of more basic knowledge, and of support from various branches of industry that may be benefited.

There is now in process of formation an organization springing from the American Ceramic Society, the purpose of which will be to initiate and correlate research in ceramics and this organization will then be the appropriate body to assume responsibility as sponsor for that investigation.

At the last annual meeting of the American Petroleum Institute, the suggestion was made that the institute should contribute to the support of the work but definite action on this invitation was deferred. Those who advocated this work hope for favorable consideration when this subject can again be brought to their attention at the next annual meeting

Many geologists, as well as industries that are to receive whatever benefits result from it, have become interested in this research work.

Serves Great Need

An eminent leader in one of the industries interested in this research in commenting upon the needs of his own business said:

"We agree with you that the present classification of clay is utterly inadequate and for this reason we have used technical data based on the physical properties of the clay such as the water content in the plastic state, the volume of dry shrinkage, the modulus of rupture in the dry state and shrinkage porosity under temperature relation, the transverse strength in the fired state, the thermal shock and some other determinations, including chemical analyses. As a result a considerable body of information has been developed which we consider to be of greater value than the usual geological information concerning clays. The rapid development of the ceramic industries is largely due to this accumulation of data.

"It seems to us that the geological aspect of the subject of clays has suffered considerable neglect and is not nearly on the level of its technical status."

Clays are composed of very fine mineral grains which are the most difficult to work with. It is interesting to note that if this group of minerals can be handled and distinguished any kind of minerals can be handled in a similar manner. The effort constitutes the most complete correlation of all the methods of research that has ever been applied to a mineralogic problem and includes X-ray methods which have been used in this work within the last few years, microscope and optical studies, dehydration tests and chemical analysis. Doctor Kerr of Columbia University is one of the leaders in this country in the application of X-ray methods to mineral investigation.

This investigation was initiated by Dr. Clarence S. Ross of the United States Geological Survey and Dr. Earl V. Shannon of the National Museum and a little later Dr. Paul F. Kerr joined in the work, and became responsible for its furtherance.

Present Work

The present work is being done under the auspices of the United States Geological Survey, the National Research Council, and the National Museum and Dr. Paul F. Kerr of Columbia University. Doctor Kerr will have charge of the X-ray investigation, Doctor Ross of the petrologic and optical studies and the National Museum of the analytical work.

It is planned to clear up one phase of this work and then publish a paper which will give the first authoritative information respecting that which has been accomplished, and the first papers are now in preparation The study of the clay minerals was begun with bentonite several years ago and has since extended to most of the other minerals of the group, and material progress in their investigation has been made.

"The classification and chemical relation of the clay group have been in an utterly chaotic condition," states a recent report of one of the working committees, "but order is beginning to appear although an immense amount of work remains to be done.

"The progress that has been made and the tentative conclusions that have been reached probably will interest mineralogists, oil refiners and ceramists since a simplification of the problem and reduction in the number of species seem to be in prospect. The difficulties of an investigation of the clay minerals has probably impressed all who have had occasion to work with them.

"Nearly all clay samples are such a complex mixture of fine-grained minerals that they are entirely unfit as material upon which to initiate a study. Fortunately there are rare occurrences of clay minerals that are fairly coarse grained or that represent an aggregate of a single fine-grained mineral. The first problem then, in an investigation of the clay minerals, is the examination of an immense number of specimens and the selection of the few that are suitable for study. Even the best specimens often require tedious work to secure suitable material. For instance, five days of constant hand picking gave 40 milligrams of one clay mineral in the form of pure crystal grains.

Four Lines of Research

Four lines of research are involved in this general work—petrologic studies that involve the identification of the minerals present and a determination of their optical properties; the chemical analyses of selected samples of pure clay minerals; the determination of the dehydration curves, and the study of the different minerals by means of X-ray diffraction patterns. During the course of the work many hundreds of samples have been examined, and about 400 thin sections have been made and studied. About 50 new chemical analyses have been made and 8 dehydration curves determined. About 200 X-ray diffraction patterns have been made and compared.

The clays that have come under investigation seem to be divisible into three

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STANDARD	1½ Ton	148″	1,345
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MASTER	2 Ton	148″	1,545
MASTER	2 Ton	164″	1,645
HEAVY DUTY	3 Ton	159″	1,985
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6⅝x 4½	1½ or 2	130
6⅝x 5⅛	1½ or 2	120
7⅝x 5⅝	1½ or 2	150
8¼x 5⅛	1½ or 2	160
8¼x 5⅛	2½ or 3	155
8¼x 6¼	1½ or 2	160
8¼x 6¼	2½ or 3	180
8¼x 6⅝	1½ or 2	155
8¼x 6⅝	2½ or 3	190
9⅝x 7⅜	1½ or 2	195
9⅝x 7⅜	2½ or 3	240
10 x 6⅝	1½ or 2	230
10 x 6⅜	2½ or 3	290
10 x 8¼	1½ or 2	200
10 x 8¼	2½ or 3	250
11⅝x 9⅜	1½ or 2	245
11⅝x 9⅜	2½ or 3	320
12½x 8¼	1½ or 2	310
12½x 8¼	2½ or 3	390
12½x10	1½ or 2	250
12½x10	2½ or 3	330
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groups. The first is the Kaolin group that contains the clay minerals that are characteristic of Kaolin and related clay materials. Members of this group are all crystalline and often exhibit typical crystalline outlines They have a mean index of refraction of about 1.56 and a low double refraction.

Fullers Earth

The second has been called the montmorillonite group and is characterized by the mineral typical of bentonite and the common clay-forming minerals of soils. Fullers earth and in fact most clays that have been found useful in oil refining have belonged to this group. The clay minerals of the montmorillonite group contain a large proportion of adsorbed water but also contain water of crystallization and essential or high-temperature water. All members of this group are crystalline; the double refraction is high and the index of refraction is low.

The third group of clay minerals comprises those that contain essential potash and so are in some ways intermediate between ordinary clays and micas. Little work has been done on those and so their characteristics cannot be described in detail.

The clay minerals are characterized by a mica-like cleavage so that the individual clay particles are small micaseous plates. Their greatest dimension is commonly large so that the individual grains are distinctly visible under the microscope, but their thickness may be of colloidal dimensions. Thus they are not strictly colloidal in size although they have very great area in proportion to their mass. The physical habit gives clays many of their peculiar properties. The large surface area is the principal factor in the great adsorptive capacity of clays, and is largely the cause of plasticity.

In conclusion, a word may be said about the satisfactory way in which chemical, petrographic, and X-ray methods have supplemented each other. In all cases where distinct microscopic difference have been indicated X-ray differences have been detected, and the reverse is equally true. With these three methods used together we evidently have research tools that are capable of solving the problem of the clay minerals. Moreover, the clay minerals constitute the most rigorous test of methods possible. One of the most pleasing things the investigators have had to report is that mineralogy seems to have the means at hand to solve any problem of mineral relations that is likely to be presented to it.

The foregoing preliminary statement of the committee's findings indicates the extent to which this pure science research has gone in endeavoring to ascertain every element that enters into these clays of commerce.

INDEPENDENT PRODUCERS RE-ELECT OFFICIALS

LOS ANGELES, Calif., Apr. 28.—L. P. St. Clair, president of the Independent Oil Producers' Agency, has "every confidence that the oil industry has passed the point of depression," he told members and directors of the agency at their annual meeting at Bakersfield. President St. Clair and all other officers and directors were re-elected.

The officers are L. P. St. Clair, president; S. W. Morshead, vice president; W. B. Robb, secretary, and George W. Lane, attorney.

The Independent Agency marketed 15,403,281.04 bbls. of oil during 1927, for a return of $12,387,054, according to the annual report of Secretary Robb. The total amount of oil handled was close to the total handled the previous year, he said.

The directors of the agency are as follows: J. B. Wells, E. E. Bailey, F. C. Berry, C. J. Berry, W. H. Berry, W. H. Boyd, W. W. Colm, H. D. Colson, Martin Coyne, A. J. Cotites, Hugh B. Evans, D. S. Ewing, R. R. Fishell, Earl Fleisher, R. E. Graham, C. R. Hannaman, George R. Harrison, John H. Harding, H. T. Johnson, W. T. Knowles, C. Allandgren, John L. McGinn, Alex Miller, S. W. Morshead, H. P. Owen, M. C. Parker, George R Peckham, C. E. Price, R. E. Rickard, W. B. Robb, E. S. St. Clair, Walter Snook, K. C. Wallace, W. R. Wardner, C. H. Warlow, A. Weill, H. H. Welsh, T. M. Young, F. C. Van Deinse, William T. Zimmer, J. S. Goodwin, W. H. Bradley, T. F. Fox, F. V. Gordon, Herman Layer, T. A. O'Donnell, W. L. Stewart, Henry Ericson and G. W. Whittier.

The members re-elected the executive committee as follows: H. H. Welsh, Dave S. Ewing, H. D. Colson, George R. Harrison, W. W. Colm, E. E. Bailey, K. C. Wallace, C. H. Warlow, F. C. Van Deinse, W. L. Stewart, John L. McGinn, and C. W. Whittier.

SLOWER DEVELOPMENT IN VENEZUELA FIELDS

Venezuela's oil yield in 1928 will be about 110,000,000 bbls., compared with 64,000,000 bbls. in 1927, according to J. Edgar Pew, president of Beacon-Sun Co. and vice president of the Sun Oil Co., returned from a visit of two months in Venezuela.

"Present production of Venezuela is almost wholly confined to the east side of the Maracaibo Basin," he said. "There are other areas, such as La Paz, La Concepcion, La Deora and La Tara, which are developed fields but close in, on the west and southwest sides of Lake Maracaibo. Principal producing fields are Lagunillas, La Rosa and Ambrosia, on the east side of the lake. Mene Grande, oldest field of importance, is largely shut in.

"There can be no doubt as to the great importance of Maracaibo Basin development. Production from this area probably will exceed in importance Los Angeles Basin. Yield of Venezuela, when finally developed, will run into billions of barrels. Potential production already developed is probably twice actual present output.

"Atlantic Refining Co., in Mara district, northwest of the city of Maracaibo, and Gulf Oil Co., in the same district, have an interesting development that may open considerable new territory. There is also much interest in Standard Oil of California and Beacon-Sun Co.'s well in the state of Falcon, northern Venezuela, which has encountered light oil. Drilling in the proven districts of the older fields has been very much curtailed in the past three months and the tendency among the three companies controlling these fields seems to be to develop more slowly."

FILLING STATIONS MUST OBSERVE THE AMENITIES

The British House of Commons has agreed to a motion by the home secretary: "That it be an instruction to the committee on the petroleum (amendment) bill that they have power to make provision for enabling local authorities to make by-laws for preventing injury being caused by petroleum filling stations to the amenities of rural scenery and places of beauty and historical interest."

INQUIRIES RECEIVED ON GAS LINE PROJECTS

(Continued from Page 123)

ciated with the price advances that have been made in various lines, including bars, shapes, plates, strips, wire products and sheets. Mills sought higher prices on second quarter contracts, but there was some extending of first quarter contracts, as a compromise, and this of course would swell shipments in the fore part of this quarter at the expense of the latter part of the quarter.

Advanced sheet prices have not been holding at all well, if indeed the advanced prices ever were much in effect, there are current sales of sheets at but little above the low point of late last year. In bars, shapes and plates on the other hand prices are distinctly higher, as 1.85 cents seems to be the minimum, while late in the old year business was at 1.75 cents and less.

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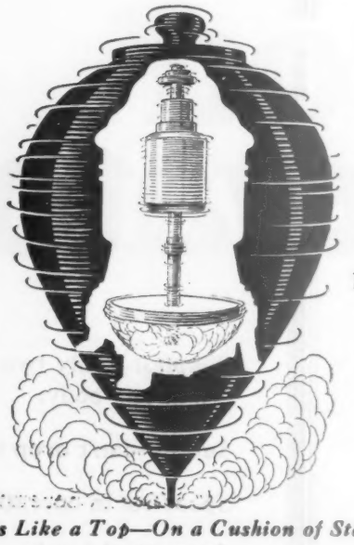

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KENTUCKY-TENNESSEE

(Continued from Page 58)

of 4,500 bbls., and will handle his own production, as he will continue active development on his holdings in Ohio and Daviess Counties.

Eastern Kentucky

Only two wells were reported from the eastern division of Kentucky, as drilling operations are very quiet in that area.

In District 5, of the Monticello Field, in Wayne County, J. C. Blair and others' No. 4, on the J. F. Gregory farm, is rated good for 10 bbls.

In the Irvine Field of Estill County, District 7, Levy and others found a dry hole in a test on the Martin Stewart farm.

Week's Work

A summary of the week's work in the Kentucky fields shows 38 completions, 23 producers with an initial production of 1,068 bbls., 14 dry holes and 1 gas well. Compared with the previous week, there were 7 less completions, 2 less producers, 88 more bbls. more new production, 6 less dry holes and 1 more gas well. The wells were distributed by counties and districts as follows:

County—	Comp.	Wells	Prod.	Dry	Gas
Barren	10	4	42	6	0
Ohio	8	7	795	1	0
Daviess	6	5	172	1	0
Warren	3	2	7	1	0
Webster	2	1	25	0	1
Hancock	2	1	10	1	0
McLean	2	0	0	2	0
Clinton	1	1	5	0	0
Allen	1	1	2	0	0
Cumberl'd-Monroe.	1	0	0	1	0
Wayne	1	1	10	0	0
Estill	1	0	0	1	0
Total	38	23	1,068	14	1
Last week	45	25	980	20	0
Difference	7	2	88	6	1

Western Kentucky

The leading activity of Kentucky prevails in the western division, especially in Barren, Ohio, Daviess, Hancock, McLean Counties, although some work is being done in Warren, Allen, Clinton, Cumberland, Monroe, Webster, Henderson, Union, Muhlenburg, Breckenridge, Butler, Hopkins and other scattered areas. Now that good weather is promised the lease owner will do the utmost to secure a production worthwhile in the active wildcatting campaign. Production is growing steadily in Ohio, Daviess and Barren Counties, and the next month or so should show a larger output than does the eastern division, which is going downward, while the west is growing large by leaps and bounds.

Webster County Tests

One of the important late completions in the western division, may mean the opening of another interesting pool, as the well drilled by Dave Browning & Son, of Ashland, Ky., formerly a resident of Webster County, on the Griffith farm, 1¾ miles west of Sebree, in the north end of the county, which first came in with a monster gasser, but drilled itself in and is spraying oil estimated at from 25 to 50 bbls., but not yet completed. It may develop into a large oil producer by a little deeper drilling, as the gas is there to flow it and the oil is showing better than when first hit by the drill. In the same county unknown parties are credited with a gas well good for 2,000,000 feet on the Rideout farm, which may in time turn into an oil producer.

Barren County

The bulk of the development in the Glasgow Field of Barren County is in the hunt for extensions to the rich portion of the Lecta Pool, to the southeast of Glasgow. White & Sandal's Nos. 1 and 2 on the Mayfield farm are 6 bbl. pumpers from the Blue sand. Same firm's No. 4 Pedigo farm is a 20-bbl. pumper in the same formation. Nos. 5 and 6, same farm, are nearing completion.

Esslinger Oil Co.'s No. 5 W. S. Morton farm is a 10-bbl. pumper and No. 9 Glass farm is due in.

Wood Oil Co. has a duster in a test on the McCoy farm and close to sand at No. 1 on the Millard Pace farm, as well as No. 1 on the Brady farm.

Christensen and others' No 1 Christensen farm drilled in a dry hole, as did Williamson and others' No. 1 Christensen farm.

Houchins Leasehold Co.'s No. 1 Seigart farm was dry in the Yellow Cap and Blue sands. Hunt & Leach have a dry hole at No. 1 on the Painter Williams farm. R. B. Tyler has a duster in No. 2 on the Buck Clark farm.

Close to 15 strings of tools are running in the Glasgow Field of Barren County and the next few weeks should see more than double that number as there are large areas still in the county not tested.

Ohio County

The largest production of any county in the western division at this time is Ohio County, which is running close to 200,000 bbls. per month, or will as soon as James C. Ellis empties the stored production owned by him in more than 50 producing wells, which have all been drilled within less than two years.

In the Ambrose Pool, Ohio County, the Mecca Oil Co.'s Nos. 13 and 14 on the Cora Wells 130 acres, in the western portion of the pool, are rated at 100 bbls. each, although the last well, No. 14, is somewhat larger.

James C. Ellis has drilled in his No. 4 on the Bob Keith farm, in the east extension of the Ambrose Pool, estimated at better than 100 bbls. initial production.

In the east extension of the same pool the Cumberland Petroleum Co.'s Nos. 7 and 8 on the north 176 acres of the Bob Hamilton farm are 100-bbl. initial producers.

On the south 100 acres of the Bob Hamilton farm, Daley & Lowman's No. 3 is one of the best completions in the county for a long time, as the first 6 hours put 100 bbls. in tanks and growing stronger in its production, being estimated with a flush the first 24 hours of better than 250 bbls. These are well-known Cleveland, Ohio, operators. This makes 11 producing wells on the two Bob Hamilton farms, and the production is showing no noticeable decrease.

Miller & Damron's No. 2 Emma Ford farm, north of the Ambrose Pool and between there and the King Pool, is reported at 20 bbls. initial.

In the western part of Ohio County, east of Maxwell, C. H. Tremor and others' test on the Joseph Lloyd farm is reported a duster.

Daviess County

Sam J. Patrick and others have abandoned their test on the George Rudy 140-acre farm, 4 miles west of Owensboro, in Daviess County, on account of a heavy dose of salt water at 1,600 feet.

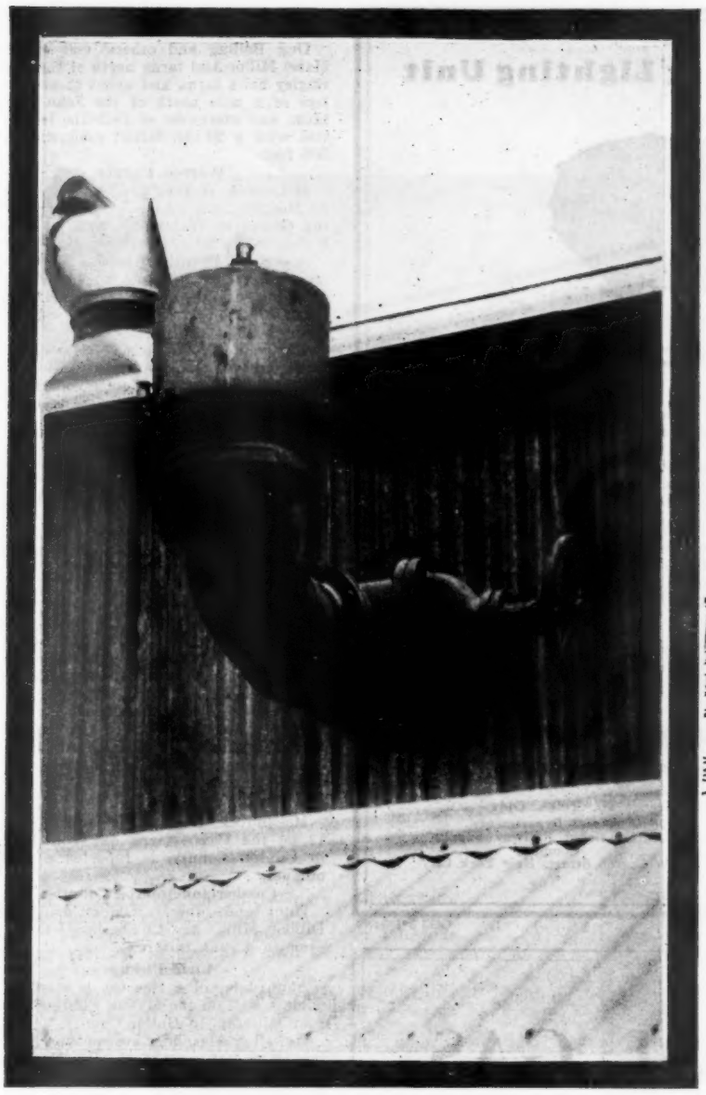
The wildcat drilled by the Gourney Development Co. on the Dock Baird farm, on the Hartford Road, 10 miles out of Owensboro, proved discouraging as nothing but a good well was looked for. Being located so close to the highway, many people went out to see the shooting of the well. The shot went off as planned, but nothing but an immense volume of water came from the hole. Everyone believed it a water hole and left. Some little time later, however, there was a heavy rumble and roar and another explosion came, sending oil and water high over the mast of the rig which settled down after a while. The driller stated it was a gas charge breaking through the cap rock and oil began to fill up in the hole, and it may yet surprise the people. It was put in as a 5-bbl. producer, but may prove better after given a trial.

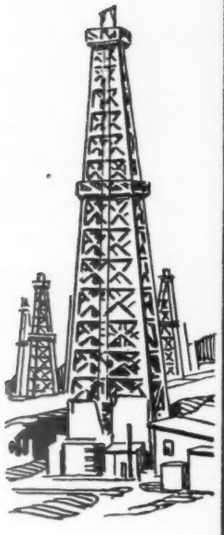
The most attractive producing well in the Daviess County Field is the one drilled by the Leeper Oil Co. for a Florida syndicate on the Pete Mahloskey farm in the Brown Pool. The well had 38 feet of pay sand and without doubt is the best completion yet made in the Daviess County boundary. A five-day gauge of the well under pump showed 350 bbls. each day, or 1,750 bbls. for the five-day period.

The Weideman Oil Co. drilled in and shot its No. 2 on the C. M. Fields farm in the Hayden Pool, estimated at 100 bbls. initial was not as productive as was No. 1, which started at around 200 bbls.

Miller & Damron's No. 1 on the J. W. (Dutch) Tompkins farm, in the Brown Pool, is reported good for 35 bbls.

The Ohio Oil Co.'s No. 2 on the Lawrence Roby 87 acres, near the Lawrence





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northwest of the Roby Pool, is good for 12 bbls.

Dug Bolling and others' test on the Hazel Miller-Aud farm, north of the Mattingley heirs farm, and about three-quarters of a mile north of the John Roby farm, and southwest of Pellville, is credited with a 20-bbl. initial production at 505 feet.

Warren County

Morrow & Haynes' No. 5 well on the E. Morgan farm, 12 miles north of Bowling Green, in Warren County, produced 6 bbls. initial at 531 feet.

Grace S. Brantin's second test, 550 feet from the south line and 1,150 feet from the east line of the Harry Lazarous farm, south of Bowling Green, did only about 1 bbl. at 510 feet.

The O. B. T. Oil Co.'s No. 4 well, 200 feet from the north line and 600 feet from the east line of the James Deathridge farm, west of Bowling Green, came in a dry hole at a depth of 1,058 feet.

Hancock County

Near Floral, north of Pellville, in Hancock County, Lang and others' test on the James McBride farm was a duster. It is in the northeast corner of the farm.

Tri-County Oil & Gas Co.'s No. 1 on the I. E. Stevens 56 acres, adjoining the Eli Corder farm, is reported at 10 bbls. initial.

McLean County

The test on the Lloyd Leachman farm, drilled by Young and Murray, in McLean County, near Calhoun, about which there was so much interest 10 days ago, is going into the discard, the pipe being pulled, plugged and abandoned.

Two miles northwest of the dry hole on the Leachman farm, Edward Murray drilled a duster on the Len Mitchell farm, at a depth of 1,385 feet.

Clinton County

McClintock, Reed & Hackathorn's No. 11 on the Pierce farm, on Wolf River, in Clinton County, is reported a 5-bbl. pumper.

Cumberland-Monroe Counties

Hunt and others' wildcat drilled at Dillon Mills, in Cumberland County, came in a rank failure.

Field Pickups

Sunnydale Oil & Gas Co. is starting a wildcat well on the Mystic Phillips farm, near Gilstrap, in Butler County.

Newell & Alexander are reported working at a test on the R. W. Moorman farm, 8 miles south of Hardinsburg, in Breckenridge County.

The Cumberland Petroleum Co. has shut in its big gas well on the R H. Neeley farm, where no oil was found and to conserve the big flow of gas. This is in Daviess County.

The Weideman Oil Co.'s No. 1 on the R. D. Gray farm, in the Hayden Pool of Daviess County failed to find a pay sand in the Jett sand and will drill down to the Barlow sand.

W. A. Batton and others are getting ready to start a test on the Christian farm in the Red Hill area of Daviess County.

S. W. Lowman has contracted for the drilling of a test on the Earl Moorman farm, 1 mile south of Utica and 2 miles southeast of the Brown well in Daviess County.

L. C. Young is moving in a drilling outfit on the J. C. Parks farm, east of the gas well on another farm, in Ohio County, and is drilling No. 1 on the C. M. Sands farm.

Petroleum Exploration Co. and others are due in the sand with a test on the J. N. Clark farm, near the Brown Pool, in Daviess County.

The Hayden lease in Daviess County, developed by L. C. Young of Lexington, has three wells on the 160 acres which are producing between 2,500 and 3,000 bbls. of oil weekly, according to reports. The wells are being pumped 24 hours daily.

Snowden & McSweeney are drilling a test on the C. C. Higdon farm, north of Knottsville, in Daviess County.

Col. Bob Powers is making preparations to develop a large acreage he has recently leased in Henderson County, across the river from Birk City. Among the leases taken is that of 280 acres owned by W. A. Wahl, directly across Green River from the well being drilled on the Charlie Birk farm by the Bartolette-Meaney Development Co. of Pittsburgh, Pa.

Nelson Robertson has a block of acreage in Henderson County of 3,000 acres and J. T. Griffith and associates also have leased up a section in that territory. Ben Medley also has some acreage leased there, with a number of other Owensboro people, who expect to get development started during the summer.

CENTRAL WEST FIELDS

(Continued from Page 58)

of the hamlet of Mohican. This well is but a very short distance northwest of an old gas well drilled on the same farm that had a nice showing of oil in the Berea sand. The outcome of this well will be watched with interest by the operators in the field. M. B. Mercer and others of Mansfield have made a location for a test on the Guy I. Humm 81 acres in the S half of the SE of Section 29, same township, and about a mile east of the drilling well on the David Leidigh farm. and Faulkner & Phelps, contractors, are shipping an outfit from Hudson, Ohio, to do the drilling.

E. L. Berry of Mansfield has made a location for No. 1 on the N. W. Shafer 100 acres, in the NW of Section 7, Mohican Township, 2 miles west and nearly a mile south of production on the Hare and McFadden farms, and a little over a mile southwest of Jeromesville, and the drilling contract on this well will be done by Lacknett & Groves, drilling tools being shipped from Spencerville, near Lima, Ohio.

Drilling Operations

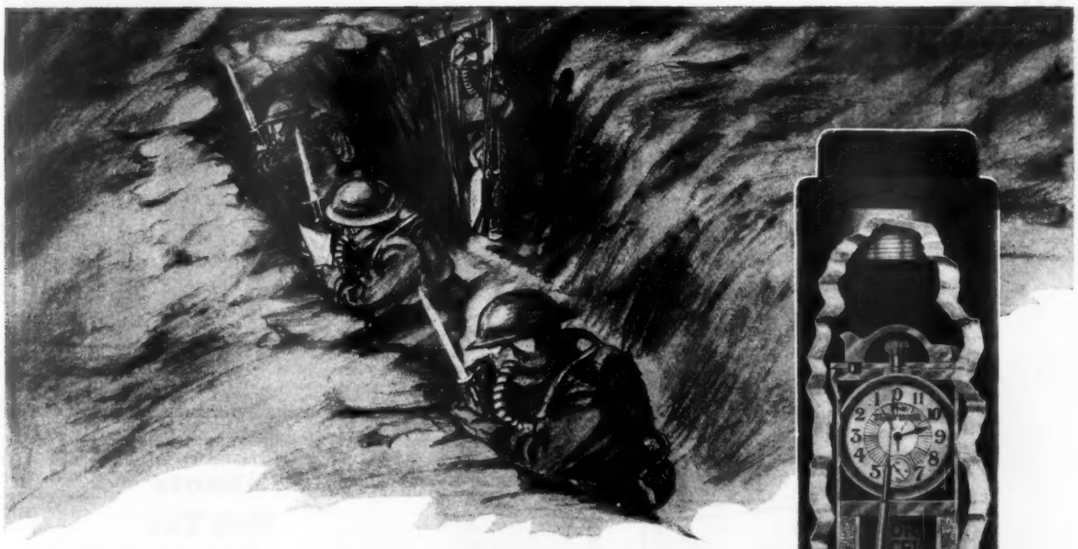
Robinson Brothers are drilling No. 3 on the Sarah McFadden 33 acres in the NE NW Section 4, and north of the producing wells on the Joseph McFadden farm. Krohmer & Schettler have made a location for No. 1 on the Alexander Griffith 100 acres in the eastern part of the NW of Section 34, Perry Township, Ashland County, a mile north and 1 mile east of the producing wells on the Hare farm. Parties from Dunkirk, N. Y., are understood to have made a location for No. 1 on the D. D. Stacker 89 acres, in the N half of the SW of Section 32, Perry Township, and about a mile north of Jeromesville.

Glass & Hazelett set a stake for a test on the Lewis Miller 160 acres, in the NW of Section 31, Mohican Township, and half a mile southwest of the drilling well on the David Leidigh farm. Ohio parties have made a location for a test near the southeast corner of the Josephine Sealer 110 acres, in the NW of Section 27, same township, 4 miles south and 1 mile east of the production on the Hare farm. Locations have also been made on the L. A. Funk 160 acres, in the NW of Section 16, same township, and about 2 miles south of the Hare wells. Unknown parties have made a location for a test on the J. F. Doll 100 acres, in the SE of Section 9, Mohican Township, a mile south and one-half mile east of the Hare farm wells. In all some 20 locations have been made, with three drilling machines running in the new field, four others en route and many others to be shipped soon.

Looks Like Lodi-Chatham

After looking over the territory covering the Jeromesville Field, it greatly resembles the once famous Lodi-Chatham Berea fields of Medina County, and it is believed the new field will soon take its place as one of the most active fields in Ohio.

Practically every farm in Mohican and Perry Townships, Ashland County, are under lease as well as numerous farms in Vermillion and Montgomery Townships, same county, west of Perry and Mohican Townships, and some leasing has been under way in Plain Township, Wayne County, to the east. Numerous operators have secured acreage in the new field, among whom are: Robinson Brothers of Westerville, Ohio, holding some 3,000 acres; J. H. Harmon and E. M. Geiger of Mansfield, Ohio, with some 40 farms under lease, totaling 4,000 acres; R. A.



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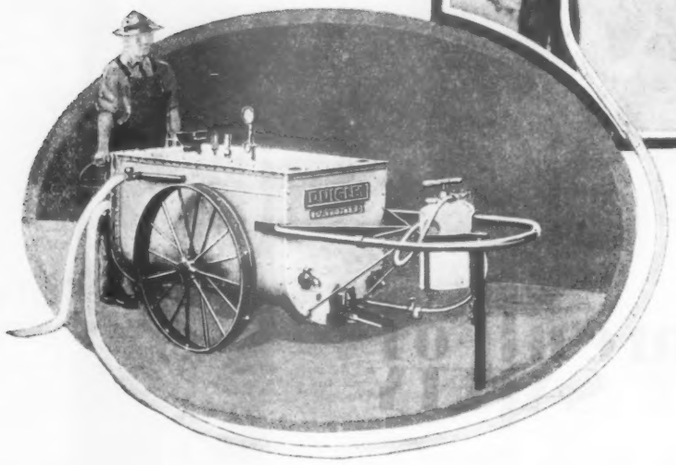

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The Jeromesville Field is practically proven for Berea sand oil for some 11 miles, starting at Rowesburg to the northeast and continuing beyond Mohican to the southwest, and some 6 miles wide across the entire townships of Mohican and Perry from east to west, by the numerous large oil showings encountered while drilling through the Berea sand in the drilling of deep Clinton sand gas wells. Many of these wells are said to have showings as high as 25 bbls. natural in the Berea sand. Several drilled to the deep Clinton and producing gas are said to flow oil many times between the casing and drive pipe, making it necessary to cement off this Berea oil.

The new Berea sand field is going to get a real testing, as the locations made are well scattered in all parts of the two townships, and drillers who worked on the former deep Clinton sand gas wells predict many good wells will be encountered, some large and others smaller producers. Only small amounts of casing and drive pipe are used. Usually from 40 to 80 feet of 8-inch drive pipe is required and about 220 feet of 6⅝-inch casing needed. The drilling is easy and inexpensive, the depth very shallow and the producing area, the much sought Berea sand formation, makes this Jeromesville Field one of the most interesting spots in the Central West fields.

Oil Near Cleveland

The test of Reeve & Laubshire on the Charles J. Pond farm, on Buttonwood Ridge, in Olmstead Township, Cuyahoga County, of the Cleveland Field, is reported good for 15 bbls. initial under pump. This well was currently reported showing for 100 bbls., but did not live up to that production. With its correct amount produced it is considered a very good find and may bring about an active drilling campaign in its vicinity.

Indiana

Only two completions were reported from the Indiana Field and both are in the old Trenton Rock area in the northeastern part of the State. In Wabash Township, Adams County, William Kelly and others' test on the A. G. Briggs farm, Section 34, is an 8-bbl. initial pumper. A test drilled by F. E. Reckew on the H. Miller farm, Section 20, Stoney Creek Township, Randolph County, is a dry hole.

Several new wells are drilling in the Sullivan Field in Fairbanks Township, Sullivan County. The Siosi Oil Corp. is drilling a test on the E. Thompson farm, and also No. 1 on the J. Johnson farm, both in Section 5. The Ohio Oil Co. is drilling a second well on the Rebecca Hopewell farm, same section, and the Twin Creek Oil Co.'s No. 2 is also under way in the same section.

Across the Sullivan County line north in Prairie Creek Township, Vigo County, the Siosi Oil Corp. is drilling Nos. 4 and 5 on the William Riggs No. 2 farm, Section 31. Church and others are drilling No. 1 on the F. E. Shattuck farm, Section 32, while R. H. Hill and others have a rig up for No. 1 on the M. O. Whalen farm, Section 21.

Illinois

The test of Phipps, Blooser and others on the Wesley Clark farm, Section 2, Dennison Township, Clark County, Illinois, that had a nice showing in stray sand at 850 feet, has been drilled deeper, finding the top of the Bridgeport sand at 952 feet and drilled to a total depth of 996 feet and given a 60-quart shot, had an initial production of 35 bbls.

In the Allendale Field of Wabash Township, Wabash County, McColpin and others' test in the northeast corner of the C. B. Hogan farm, in the NW of Section 2, topped the sand at 1,429 feet and after drilling through 10 feet of sand pumped 10 bbls. initial production. The Adams Corner Oil Co. did not do as well in a test 600 feet from the north and west lines of the Edward Wright farm, in the southeast quarter of Section 14, as it developed into a dry hole at a depth of 1,610 feet.

The Dinsmoor Oil Co. is drilling No. 21 on the W. L. Hughes farm, Section 27, Martin Township, Crawford County.

MOTOR CAR PRODUCTION GREATER FIRST QUARTER

WASHINGTON, D. C., Apr. 28.—Automobile production in the United States during the first quarter of 1928 showed an increase of 29,899 cars over the same period in 1927, according to Department of Commerce statistics.

In January, February and March, 968,032 cars were sold from the factories, compared with 938,133 during the three months last year. In 1926, 1,108,194 cars were produced.

The number of passenger cars sold was far ahead of the same period for 1927, there being 867,782 in the first three months of this year, against 809,732 during that period one year ago. Trucks fell off in number from 128,401 during the first quarter of 1927 to 100,250 in the first quarter this year.

Production in March totaled 412,825 cars, against 394,443 in the same month of 1927. In March, there were 371,408 passenger cars and 41,417 trucks, compared with 345,911 passenger cars and 48,532 trucks for the same month last year. In February of this year a total of 323,514 cars were sold, compared with 304,703 in February, 1927. In January of this year 231,693 cars were sold, compared with 238,927 in January, 1927.

The production of passenger cars and trucks in the United States by months, based on figures from 160 manufacturers, was as follows:

1928—	Pass. Cars	Trucks
January	205,543	26,150
February	290,831	32,683
March	371,408	41,417
Total	976,782	100,250

1927—	Pass. Cars	Trucks
January	199,650	39,277
February	264,171	40,592
March	346,911	48,532
Total	809,732	128,401

March production of automobiles in Canada, as reported to the Department of Commerce by the Dominion Bureau of Statistics, was as follows: Passenger cars, 7,478; trucks, 2,246, compared with the production in February of 10,315 passenger cars, 2,189 trucks and production in March, 1927, of 19,723 passenger cars and 3,527 trucks.

OIL COMPANY BUYS PLANE FOR SCOUTING

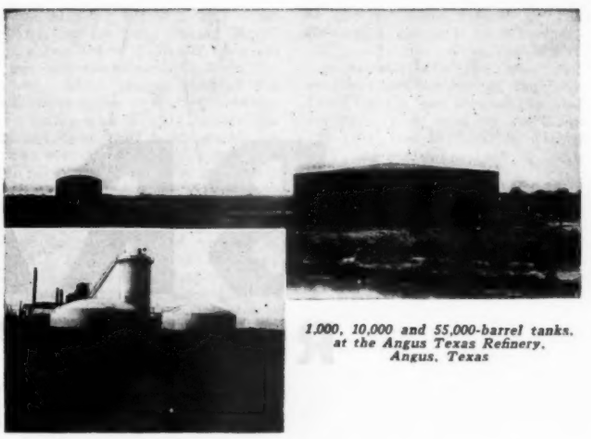
The Richfield Oil Co. has purchased a Waco airplane (Wright Whirlwind motor) and painted it in the Richfield colors, to be used by Dudley M. Steele, manager of the aviation department for "scout" purposes over the country.

Mr. Steele, with Ralph Hall, relief pilot and mechanic, are now visiting all airports between Los Angeles and San Francisco, Calif., and on May 1 plan to leave for New York in the interest of the national air races, Mr. Steele being on the executive committee.

Mr. Steele figures that about 75 per cent of his time will be saved by using air transportation.

TO DRILL IN SOUTH AFRICA

A dispatch from Johannesburg says American oil companies have obtained options on 30 farms in Bethlehem district of the Orange Free State and count on finding oil at 3,500 feet.



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CALIFORNIA FIELDS

(Continued from Page 55)

to expectations when given a test a few days ago from the 6,530-foot level. The initial production, 1,150 bbls. daily, was entirely satisfactory as far as quantity was concerned, but the quality was not so good as the output was cutting approximately 50 per cent water. This well, a former upper zone producer, is a distinct disappointment although the water cut may be due to mechanical trouble and subsequently remedied. This will be definitely established in the near future as No. 2 Naples of the Petroleum Securities, another deep test, is scheduled for production at about the same depth. The Marland has successfully finished several Bonner zone completions in the northern part of the Selover lease adjoining the intensely drilled Alamitos Heights town lot section and subsequent work will therefore be watched with considerable interest. J. E. O'Donnell has suspended drilling operations on his deep test, No. 1 Treat, in the Huntington Beach town lot area at 5,510 feet and, while this action tends to indicate the probability of a permanent abandonment, this hole cannot be considered a definite deep test as recent developments at Long Beach indicate the possibility of getting production down to around the 7,000-foot level in other Los Angeles Basin fields.

Potrero

The Associated's No. 1 Cypress at Potrero broke loose a few days ago and blew in doing approximately 20,000,000 feet of gas daily. This well, the initial hole drilled by the Associated at Potrero, failed to result in sustained production in the upper zone when given a test several months ago and, although subsequent drilling resulted in the discovery of a second horizon, this too failed to yield oil in commercial quantities. The completion of No. 2 Cypress as a 1,049-bbl well a few weeks ago prompted the company to re-enter No. 1 Cypress for exploratory purposes. It was decided to make another production test of the upper horizon and the casing was accordingly perforated around the 4,500-foot level. The concentration of gas, which had undoubtedly accumulated after this zone had been cased off several months ago, came in with a violent rush and the well started running wild, belching considerable quantities of mud, water and sand. A survey of the damage sustained will probably be made in the near future and, while some are inclined to believe that the lower portions of the hole have been damaged beyond recovery, this will not be definitely established until a later date, as practically all new surface equipment will be required before work is again resumed. The company is in the meantime fabricating four 5,000-bbl. steel tanks in order to give No. 2 Cypress a prolonged production test, the specific purpose being to determine the probable rate of decline as this will form the basis of future development. This well showed an initial production of better than 1,000 bbls. daily aver a three-day period, but this is hardly long enough to show the desired results. The company is faced with the possibility of having to drill several additional wells in the near future, although it is reported that a temporary extension of time has been secured. Production of the newly discovered Potrero Field is not expected to play any important part in the California production situation during 1928 as the acreage is all held in large parcels, this precluding intensive competitive drilling.

Northern California Wildcats

The Petroleum Securities picked up a very promising oil sand in No. 1 Diablo, a wildcat situated north of the town of Piru in Ventura County, and this well, which is located on a 10,000-acre lease owned in fee by E. L. Doheny, is scheduled for a production test within the next few days. There is no way of determining the potentiality of the sand encountered until it is actually tested out, as it may not be comparable to the shallow production secured on another structure on this same ranch to the west. No. 1 Diablo is located on a visible independent structure up in Diablo, or Devils Canyon, and the outlook is considered quite promising, at least for small production. Doheny's Temescal ranch was pioneered by the B. & L. Oil Co., organized by Barker and Landis, but the Petroleum Securities subsequently acquired the shallow production developed. The Pacific Eastern is having considerable difficulty in securing commercial production in its second Union Avenue wildcat southwest of Bakersfield in Kern County and it begins to look as though another well will be necessary before the productivity of this area is determined. No. 1 Union Avenue, the initial test drilled, showed plenty of kick, shooting up over the crown block on several occasions and would probably have resulted in commercial production if mechanical trouble had not developed as the result of the excessive gas pressure. The Pacific Eastern is expected to locate its third wildcat south of Nos. 1 and 2, although future work will probably be delayed as long as possible. The Milham Exploration Co. has just located its projected fifth gas well in the Buttonwillow gas field and actual spud will be made probably within the next 10 days.

The North American's No. 1-A Delano in Kern County passed the 5,320-foot level without encouraging showings a few days ago and this well has all the earmarks of a duster. The Superior is abandoning its wildcat, No. 1 Ellison, in Kern County as a dry hole at 3,208 feet and this equipment will be moved over to the Fruitvale Field of Kern County, opened up a few months ago by the Pacific Eastern Production Co. The latter concern, incidentally, spudded in two new wells at Fruitvale and both of them, Nos 2 and 3, are making exceptionally fast footage. No. 1, the discovery, is a consistent producer at 180 bbls. daily. The General Petroleum expects to spud in its McFarland wildcat in Kern County some time within the next three weeks and this well will be watched with considerable interest. The California Petroleum Corp. will also be starting a new wildcat in Kern County soon, a tentative location having been mapped in the Arvin district. The Milham Exploration Co. is down 7,235 feet in its Kettleman Hills wildcat and recent showings indicate the possibility of developing commercial production.

Southern California Wildcats

The Shell is abandoning No. 1 Dupree, a wildcat in the Hawthorne area at Los Angeles Basin, originally started by J. E. O'Donnell, and it is understood that all leases in this district are being quit claimed because of the failure to find anything of special importance. The Monterey Park Oil Co. landed a string of 8¼-inch in its wildcat at Monterey Park during the early part of the week and the cement will probably be drilled out within the next few days. The White Behr Oil Co.'s No. 1 Watson, a wildcat located in the Watson tank farm area near Los Angeles Harbor, was reported down 5,070 feet a few days ago and the absence of important showings makes the outlook rather discouraging. The Shell is making good progress in No. 2 Mission, its second wildcat in the San Fernando Valley, and this well will undoubtedly be watched very closely as No. 1 Mission logged several minor showings during the course of work.

CANADIAN FIELDS

(Continued from Page 51)

feet. Home Oil Co.'s No. 3, same LSD, which recently resumed drilling, is making its first water shutoff at 204 feet, and reaming down for 20-inch casing.

McLeod Oil Co.'s No. 3, LSD 16, Section 1-20-3w5, which recently started to drill to the deep lime, is still pounding to pieces the lost tubing at 3,280 feet. McLeod's No. 4, same LSD, is at 1,685 feet and drilling. Nos. 1 and 2 deep producers are reported making an aggregate of around 190 bbls. a day of crude naphtha from the deep lime.

Illinois Alberta Oils' No. 2, LSD 14, Section 12-20-3w5, is reported drilling at 1,918 feet. No. 1 is making around 90 bbls. a day from the deep lime. The company will hold its annual meeting at Calgary on May 7; the financial statement shows, for the year ending March 31, 1928, a revenue of $130,802 from the sale of gas and crude naphtha from No. 1 producer. After taking care of the year's expenses under operating account, there is a balance of $86,371, which has been turned into the development account. The revenue from No. 1 producer has been derived from sale of 31,822 bbls. of crude naphtha at $125,652, with an additional $5,150 from the sale of gas; the figures indicate an average daily crude naphtha production of around 90 bbls. which is being maintained and may be slightly increased. The Illinois-Alberta company entered the field more than 10 years ago; it was originally financed to a large extent by Chicago interests. No. 1 well got some light crude and wet gas production in the Blairmore-Dakota horizon, and for some years produced from this depth. Later it was decided to continue the well to the Madison limestone horizon, where wet gas and crude naphtha were met at 3,858 feet. No. 1 has been producing for over a year from this sand. The company in its early stages carried on in the face of tremendous difficulties, including lack of capital and serious damage by fire.

Success in Salvaging

British Dominion Oil Development Corp.'s No. 1, LSD 4, Section 5-20-2w5, abandoned at 6,600 feet, is experiencing a continuance of its exceptional drilling luck in the salvaging of its casing. It is reported that already some 6,000 feet of 6-inch and 4,500 feet of 8-inch have been taken out of the deep hole.

Regent Oil Co., LSD 16, Section 1-20-3w5, has finished setting the 12½-inch casing at 2,200 feet and resumed drilling with three tours. In the south end of the field, Mayland Oils, LSD 10, Section 17-19-2w5, is reported at 215 feet and carrying the 20-inch pipe. The test has experienced hard going owing to the boulder beds encountered at this point, similar to those in the near-by Home's No. 1 well. Union Drilling Co. is handling the work on contract, running three tours. The 15-inch casing for this test is being moved to the field from Okotoks.

Advance Oil Co.'s No. 5, LSD 16, Section 19-19-2w5, is reported drilling at 285 feet and 45 feet in an exceptionally hard gray limestone. The test is making only from 4 to 5 feet in a tour. The thick boulder beds, encountered in other tests in the south end of the field, were only 31 feet here, below which came the water sand, the drill entering the Benton at 41 feet. Double tour is now being run, and a 15½-inch hole drilled. The shallow showings in this test have rather upset the geological dope.

New McDougall-Segur Oil Co.'s No. 3, LSD 14, Section 12 20-3w5, is reported held up by a small fishing job at 1,900 feet. Nos. 1 and 2 are making a daily aggregate of around 72 bbls. of light crude.

Calmont Oils, LSD 2, Section 1-20-3w5, is at 5,190 feet and waiting for 6-inch casing. Okalta Oils' No. 2, LSD 8, Section 1-20-3w5, has been cleaned out and is making new hole around 2,800 feet. The diamond drilling outfit for Okalta's No. 1, LSD 1, Section 1-20-3w5, has been shipped; when the rig has been changed, drilling on No. 1 will resume at 4,640 feet.

Seneca Oils, LSD 1, Section 34-20-3w5, is reported at 4,040 feet and drilling. Stockmen Oils' No. 1, LSD 1-2, Section 27-20 3w5, has been finished as a gasser at 1,760 feet. Stockmen's No. 2, LSD 7, same section, has spudded in.

New Turner Valley Tests

A number of new tests are being started in the Turner Valley Field this spring. An important test in the far south has been located by East Crest Oil Co., in LSD 5-6, Section 16-19-2w5, about a mile south of Home's No. 1 producer. The location is on the east crest of the structure and on its southeasterly extension through the valley. This end of the field was brought into prominence last year when Home Oil Co.'s No. 1, in LSD 10, Section 20-19-2w5, and Dalhousie's No. 5, LSD 16, Section 30 19-2w5, got a light crude production in the Fernie shales, overlying the Madison lime. East Crest's No. 1 is on the southeasterly extension of the structure tapped by these two producers, and will be a further test of the possibilities of the Fernie shale horizon, as well as of the deep lime, in the southernmost section of the field. East Crest Oil Co. has secured the heavy duty standard outfit used for the Cooper-Nanton Oils' test in LSD 2, Section 7-20-2w5; the outfit has been dismantled and is being moved to the new location. The East Crest Oil Co. is capitalized at $750,000 with head offices at Calgary; the officers include: W. S. Henderson, president; Frank Webster, vice president; and C. MacDonnell, secretary-treasurer; directors are William Howe, M. H. Staples, H. S. Price, Arthur Hess, and Byron Harmon.

United Oils' No. 1, LSD 2, Section 24-20-3w5, has finished its derrick and is rigging up. The outfit used for the Devenish Petroleum's No. 1, in the Skiff Field, is being used, and the test will spud in early in May; it will be drilled by contract.

Evorne Oils, LSD 4, Section 34-19-4w5, has finished camp buildings, derrick and cellar.

The Freeman-Lundy Syndicate of Calgary will put down a test on acreage in LSD 10, Section 1-20-3w5, south of the McLeod Oil Co.'s producers; derrick timbers are being secured, and the test will spud in some time before the end of June.

The Regal Oil Refineries is operating a short pipe line from the north end of the Turner Valley to the bridge at Black Diamond, where storage has been provided; about 3,000 bbls. of light crude have been run into storage. The oil is hauled from Black Diamond to Okotoks, whence it is shipped to the Regal refinery at Calgary. The Regal plant is taking the light crude production of the New McDougall-Segur wells.

Moose Mountain

In the Moose Mountain district, Signal Hill Oil Co.'s No. 2, LSD 9, Section 34-23-5w5, has finished running casing to the bottom of the hole at 1,975 feet. Owing to bad roads, little news is available regarding the operations in the Moose Mountain and Morley Reserve areas, or in other isolated areas in the foothills where wildcat tests are being drilled.

On the Ribstone-Blackfoot structure, east central Alberta, Advance Oil Co.'s No. 3, LSD 1, Section 16-45-1w4, has drilled into a brown shale marker thought to overlie the first oil horizon which was encountered in the Imperial-Ribstone's No. 1 at 1,900 feet. Additional drilling equipment is being moved north, after which the test will be drilled into the sand. Ribstone Oils' No. 1, LSD 1, Section 1-46-1w4, is at 1,974 feet and shutting off water. London-Ribstone Syndicate, LSD 14, Section 10-43-3w4, is shut down at 2,000 feet.

In the Wainwright Field, Fabyan Petroleum's No. 1, LSD 8, Section 24-45-8w4, is unloading boilers and machinery preparatory to resuming drilling at 4,100 feet. Near Wainwright, the unfinished test of the Interior Oil Co., in Section 36 44-7w4, which has been shut down at 2,100 feet, will be completed by Wainwell Oils, Ltd., of Toronto. J. C. McNab of Winnipeg has arrived to take charge of operations as field manager for the new company. It is understood the new company will take over and complete a number of the unfinished tests in the Wainwright Field.

In the border areas, Gas Production & Transportation's No. 1, NE. Section 21-4-18w4, has finished a difficult cementing job to shut off water at 2,930 feet. The test is now reported to have resumed drilling after waiting some weeks for the cement to thoroughly set. It is understood that at this depth the well is close to the potential producing horizon.

In the Foremost Field, the Canadian Western Natural Gas, Light, Heat & Power Co. is abandoning No. 3 well. This was one of the early wells drilled in the Foremost Field; it had only a nominal flow of gas and had never been used. The Canadian Western company is car-

rying on extensive diamond drill tests for structure in southern Alberta, but no new commercial tests have yet been started in this area.

In the Viking gas field, east of Edmonton, Northwestern Utilities' No. 15 is reported rigged up ready to spud in as a test for gas in the Viking sand.

Skiff Field

In the Skiff Field, southern Alberta, Devenish-Imperial's No. 2, N half, Section 11-5-14w4, has some camp equipment on the ground and a combination rotary-standard outfit en route to Skiff. The location is southeast of Devenish Petroleum's No. 1 discovery well. No. 2 will spud in some time in May.

In the Pincher Creek Field, Alberta Gas & Fuel Co.'s No. 1 Doherty, Section 34-2-29w4, is drilling below 1,900 feet with slight traces of oil reported in the formation. Mount Royal Oil & Gas Co.'s No. 1, LSD 4, Section 7-6-1w5, is still shut down around 1,000 feet with a small gas production; drilling will not resume till the roads are in shape, which should be before the middle of May. The test is expected to get an oil sand around 1,600 feet. The company is negotiating for a natural gas franchise for the town of Pincher Creek, 9 miles northeast of the well.

In the Suffield district, southern Alberta, Ontario-Alberta Development Co., Township 17-8-w4, has finished derrick. Storey Brothers of Calgary were the rig builders. Machinery is now being installed. The test will start drilling early in May.

Wildcat Tests

There are, in various parts of Alberta, a number of unfinished wildcat tests which may resume work a little later in the season. In the Altario district the Rosebud Syndicate last year carried a test in LSD 5, Section 15-13-4w4, to 450 feet. This has been shut down throughout the winter. Some work has been done on a test of Cardinal Oils, Ltd., in LSD 1, Section 28-40-19w5, in the Buffalo Lake district; the derrick is up but no machinery has been installed. This test is expected to spud in this spring. In the Cypress Hills district near Medicine Hat, Eagle Butte Oil Co., LSD 3, Section 31-7-4w4, shut down for the winter at 1,000 feet; this test is on a promising structure mapped by W. S. Dyer of the Geological Survey of Canada and will resume drilling this spring as soon as the roads are in shape for work. In the Gleichen district the Oil Producers Corp. of Canada has a derrick up in LSD 4, Section 24-22-23w4, for a test partly financed by local capital and which should spud in next month.

In the Morley Reserve area, Gold Coin Oils, Ltd., of Calgary last year drilled a test to 3,928 feet. It has been shut down at this depth all winter, but may resume this spring. Wabash Oils, Ltd., is drilling around 1,200 feet in another portion of the Morley Reserve area, where chances of shallow production seem good.

Near Olds, the Coates Syndicate last year started a test in LSD 13, Section 28-32-1w5, but shut down after making about 285 feet. It is not known yet whether operations will be resumed this season.

Owing to difficult road and weather conditions, comparatively few wildcat tests are yet active. In the DeWinton district, near Calgary, the Anglesey-Lakeview's No 1 in LSD 1, Section 22-21-1w5, is unofficially reported drilling below 3,200 feet; this is a test being put down by the Marquis of Anglesey on a foothills structure somewhat similar to the Turner Valley, and where a deep-drilling proposition seems to be assured. The Ranchmens Oil & Gas Co. test in LSD 16, Section 13-20-29w4, is down 2,500 feet on an outlying fold of the foothills; it has been shut down but is getting in shape to resume.

The only Imperial Oil, Ltd., test outside the Turner Valley and Skiff Fields is Imperial-Highwood's No. 1, drilling in LSD 3, Section 36-18-3w5, on the Highwood structure south of the Turner Valley. This has for some months been engaged in straightening a crooked hole which had been carried to 3,624 feet; if the hole can be got in shape, the test will likely be completed this season. The Highwood structure is in the foothill belt and has been regarded as a promising area for a field similar to the Turner Valley but with shallower production. These expectations, however, have so far not been borne out, and the prospects are that drilling will have to be carried as deep as in the Turner Valley. To the north of the latter field, the Imperial-Bow River No. 1, LSD 15, Section 12-25-5w5, in the Jumping Pound section of the foothill belt, was last year abandoned at 5,585 feet without getting production, while to the south of the Highwood well, the Imperial-Rice Creek test in LSD 12, Section 4-14-2w5, west of Nanton, was also dry after going to the then record depth of 5,747 feet. The Turner Valley appears to be located at a higher point in the foothill belt than either of these two structures, which might indicate that Imperial-Highwood No. 1 would demand deeper drilling than the Turner Valley Field.

On Montana Side

On the Montana side, the Coast Loggers Oil Syndicate of Vancouver, British Columbia, has secured acreage from the Kevin-Sunburst Holding Corp. of Shelby, in E half SE Section 4-34-3w, close to the Majestic producer, and will start drilling early in May. In the Dutton Field, Commonwealth Petroleums, Ltd., of Calgary will drill a second well. Its No. 1 got a good show of oil, but water encroachments led to abandonment of the hole.

The Hudson's Bay-Marland Oil Co. is reported going ahead with its deep test in the Viking Field. Plans are also proceeding for a $50,000 experimental tar sand plant at McMurray, to be in operation this season. No immediate commercial result from the tar sand enterprise is anticipated, but it is expected that a great deal of valuable information as to the most efficient method of utilizing these deposits will be secured. The eventual marketing of the tar sand bitumen on a commercial basis is likely to be postponed indefinitely by the development of the black crude oils of the Skiff and Wainwright Fields, which have an asphaltic base, but in the meantime the Hudson's Bay-Marland Oil Co. will proceed with its experimental work in the McMurray area. The company will also continue its geological work in various promising sections of the Canadian West, and for this season will probably increase the personnel of its geological force.

In Saskatchewan, the Simpson Oil Co., Section 9-29-25w2, near Simpson, has resumed work, and is trying to loosen the 8-inch casing preparatory to carrying the test below the 1,400-foot level.

In Ontario, the Provincial Mines Department is sending a geological party north this spring to carry on work in the James Bay district, along the Moose and Albany Rivers. On the Albany River the limestone formations are extensively developed, and it is thought there are important oil possibilities. The party will comprise Dr. W. S. Dyer and two assistants.

Explosion at Tank Farm

The Imperial Oil, Ltd., tank farm at Coutts, Alberta, was the scene of a serious explosion recently when a 25,000-bbl. tank holding 14.000 bbls. of crude oil blew up and caught fire. Fire guards were plowed which, helped by an east wind, checked the spread of flames to other storage tanks. The fire burned itself out after 10 hours, the loss being $40,000. I. Coover, gauger, was on top of the tank and the explosion hurled him 75 feet, inflicting serious injuries.

SOUTHWEST TEXAS FIELDS

(Continued from Page 46)

same depth, approximately, and on a Lewis drill stem test came in a big gas well. Heap & Retherford's well is No. 1 Strauch and it has set casing and will be completed. Practically all the old wells in the field completed at the shallow sands at around 1,800 feet and down to 2,400 feet have been deepened or will be deepened to the 3,300-foot sand in which there are now nine wells producing.

There is an oversupply of natural gas in Southwest Texas at this time and in all the gas fields drilling is being reduced to one or two rigs to a company and in some cases to none. Negotiations in progress, however, may find additional big outlets for Southwest Texas natural gas and increase the demand for more wells.

Other Proven Fields

Among the developments in the newer fields, Robert Driscoll in the Driscoll gas field in Duval County has completed his No. 11 fee, at 2,458-61 feet with casing set at 2,454 feet and it gauged 60,000,000 feet of gas, dry. But Edward St. Alban's No. 1 Hyatt, more than a mile north and a little east, got a dry hole and has abandoned at 3,075 feet. Driscoll's No. 11 fee is the third big gas well and third producer to be completed in the new field.

In the new Cole Petroleum Co. Field in Webb County, No. 56 Benavides in sand at 2,320-26 feet came in a gas well with 420 pounds rock pressure. Casing was set at 2,320 feet. It is the farthest north of any wells in the field. The other wells in the field are all making mainly oil but each came in at first as a fairly large sized gas well. Cole has made two new locations, one 300 feet due west of No. 56 and one 300 feet due west of No. 57.

Gasser Going to Oil

Houston Gulf Gas Co.'s No. 2 Shelly in the Refugio Field in Refugio County, a big gas well at 3,300 feet in the new deep sand is making considerable oil. It was put on a 1-inch choke and has been making so much oil that the company quit using the gas from it. The well is a little over one-eighth of a mile west of No. 6 Shelly which was the discovery gas well in the new deep sand.

Caldwell County Completions

Trinity Drillers' No. 1 Miears, C. M. Cannon Survey, south of Dale, abandoned at 2,494 feet, top of Edwards showing sulphur water.

Duval County

Robert Driscoll's No. 11 fee, Driscoll Field, Survey 448, at 2,454 feet completed 60,000,000-foot gasser.

Magnolia Petroleum Co.'s No. 3 S. Benavides, Cole Field, Blocks 146, 147, 194 and 195, was completed at 1,544 feet a 20,000,000-foot gas well with 460 pounds rock pressure.

Atascosa County

Eckert and associates' No. 1 C. T. Tom, wildcat 2,500 feet to north line of farm and 2,700 feet west of the highway has been abandoned at 1,507 feet.

Medina County

Yantis and others' No. 1 Saathoff, Gerhard Inhken Survey No. 40, has been abandoned dry at 803 feet, after thought to have been drilled through the fault.

Refugio County

Houston Gulf Gas Co.'s No. 2 Ryals, Refugio gas field at 3,300 feet is average gas well for the field; No. 4 W. Heard at same depth is average well of the field, as is also No. 5 W. Heard at 3,300 feet.

Webb County

Ruthada Oil Co.'s No. 8 Bruni, in the Aviator Field, at 1,740 feet, total depth is a 50 bbl. well.

Cole Petroleum Co.'s No. 56 Benavides, Cole Field, Survey 413, Block 3, in the new field at 2,334 feet is large gas well through tubing with 420 pounds rock pressure.

Edward St. Alban's No. 1 Hyatt in Block 25, Sweeden tracts, Duval County has been abandoned at total depth of 3,075 feet.

New Locations

Magnolia Petroleum Co.'s No. 1 Daisy Hughes is location in the Luling Field in Caldwell County.

The Texas Company's No. 6 W. N. Osteen, Swearingen Survey, is location in the Dale Field, 620 feet to northwest lines and 150 feet to southwest lines; No. 7 Lackey, J. Gilbert Survey, same field, is location 150 feet to south and east lines.

Fred Adams' No. 1 O. T. Moore, Dale Field, Caldwell County, 600 feet from The Texas Company's No. 1 O. T. Moore has been spudded in.

Yantis, Carl and others' No. 1 Tom Neumann, J. Haldy Survey No. 39, Medina County, is moving in, with location 860 feet to north line and 431 feet to west line of survey.

Cole Petroleum Co.'s No. 58 Benavides, Survey 412, Block 3, Cole Field, Webb County, is location 460 feet to east line and 160 feet to north line; No. 59 Benavides, same field, block and survey, is location 760 feet to east line and 160 feet to south line.

Moody Corp.'s No. 15 Palacious, Survey 291, Block 22, Randado Field, Jim Hogg County, is location 450 feet to east line and 150 feet to north line.

W. C. Berg's No. 1 N. Hinnant, Survey 19, Block 9, Jim Hogg County, is moving on, with location 250 feet to west line and 150 feet to south line.

Cole Gas Field—Duval

Magnolia Petroleum Co.'s No. 3 B. Benavides, Blocks 146-147-194-195, is drilling at 1,050 feet; No. 5 Benavides, Block 2, O'Hern & Seacord Subdivision, is location 125 feet to northeast lines and 600 feet to northwest lines. No. 1 A. M. Bruni, Survey 15, Block 10, is location 150 feet to northwest and southeast lines.

Humble-Reiter-Foster Pool

Humble Oil & Refining Co.'s No. 8 Kohler, Survey 405, is location 150 feet to east line and 450 feet to south line.

Driscoll Field

Robert Driscoll's No. 11 fee, Survey 448, located 560 feet to east line and 1,050 feet to south line, has set casing at 2,454 feet. Edward St. Albans' No. 1 Hyatt, Block 25, located 450 feet to south line and 150 feet to west line, is drilling at 2,495 feet.

Randado Field—Jim Hogg

Magnolia Petroleum Co.'s No. 37 Merchants State Bank, Survey 415, located 150 feet to south and west lines, is drilling at 1,095 feet.

Schott Field—Webb

Magnolia Petroleum Co.'s (Carnahan) No. 1 Garcia, Survey 53, located 200 feet to south line and 500 feet to east line, is drilling at 4,135 feet; No. 11 Garcia, Survey 58, is location 150 feet to north line and 1,620 feet to east line.

Albercas Field

Newton Drilling Co.'s No. 2 Bruni, Block 65, located 1,770 feet to south line and 150 feet to east line, is rigging up. O. W. Killam's No. 8 Bruni, Block 64, located 1,470 feet to south line and 75 feet to west line, is drilling at 650 feet. Killam-Simms' (Maddox) No. 2 Bruni, Block 65, located 1,170 feet to south line and 150 feet to east line, is drilling at 100 feet.

Aviator or Bruni Tracts

Ruthada Oil Co.'s No. 8 A. M. Bruni, east half Block 18, located 500 feet to south line and 450 feet to east line, is setting casing. Salley and others' (Radio), Block 3, is location 150 feet to north and west lines.

Cole Field No. 2

Magnolia Petroleum Co.'s No. 1 Valdez, Survey 754, located 150 feet to south and west lines, is rigging up. Cole Petroleum Co.'s No. 56 B. Benavides, Survey 412, Block 3, located 160 feet to north and east lines, has sand at 2,320-26 feet and is setting casing; No. 57 Benavides, Survey 412, Block 3, located 361.5 feet to east line and 162.5 feet to south line, is drilling at 2,300 feet; No. 58 is location.

Mirando Valley—Zapata

William R. Jewell is making location for No. 2 Hinnant in the Mirando Valley Field.

Dale Field—Caldwell

William F. Morgan, Inc.'s No. 2 Osteen, Swearingen Survey, 750 feet to east line and 150 feet to south line, at 1,871 feet, total depth, has set casing at 1,850 feet and ratholing ahead to find the Serpentine, showing considerable oil at 1,850 feet and is much higher then the other wells.

Luling Field

Magnolia Petroleum Co.'s No. 12 W. J. Tiller, John Henry Survey, 350 feet northeast of No. 1, is drilling at 180 feet. United North & South's No. 1

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Sturdily built of close-grained iron, O. I. C. Valves stay on the job without the necessity of frequent replacements. The seat in the body and the seat on the wedge are cast and machined integral with the body and wedge, respectively—a great advantage over the old method of applying the seats as separate parts.

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O. I. C. All-Iron Gate Valves—of which the extra heavy, 800 pound hydraulic test type illustrated here is an excellent example—are made in standard, medium and extra-heavy classes. It will pay you to specify O. I. C. Valves on your next order.

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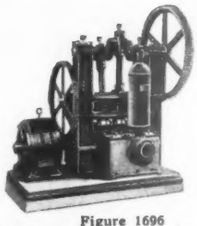

Figure 1696
Goulds Single-Acting Triplex Pump

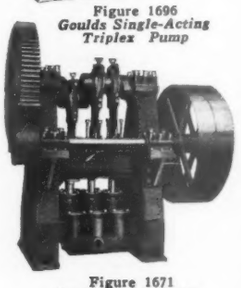

Figure 1671
Goulds Single-Acting Triplex High Pressure Pump

JUST another instance of satisfactory service from Goulds Pumps in the oil industry, is the installation shown above—a battery of 5"—3-stage Centrifugals, Figure 3330—in constant daily use at the gasoline plant of a prominent Borger, Texas, petroleum company.

Goulds Pumps are made to stand the gaff—no matter how vigorous the service required from them. For this reason, engineers in the oil industry can unhesitatingly recommend Goulds Pumps—designed and built by the world's largest and oldest pump maker—for 80 years manufacturer of pumps for every purpose.

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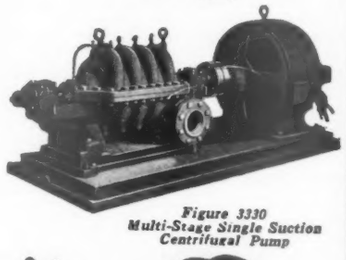

Figure 3330
Multi-Stage Single Suction Centrifugal Pump

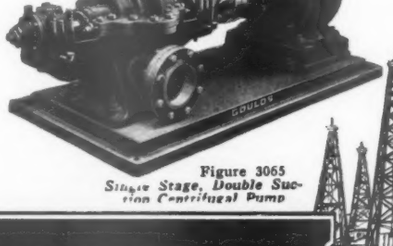

Figure 3065
Single Stage, Double Suction Centrifugal Pump

GOULDS PUMPS, Inc.
Seneca Falls, N. Y.

Houston, Texas
1402 Second Nat'l Bank Bldg.

Tulsa, Okla.
705 Kennedy Bldg.

GOULDS PUMPS

Kelly is drilling at 7,586 feet in schist; No. 2 Tiller is also drilling in schist at 7,228 feet.

Charco Redondo

W. R. Duke's No. B-1 J. M. G. Martinez, Block 17, W. R. Duke Subdivision, 150 feet to southeast and southwest lines, is drilling at 240 feet.

Bruner Field

Lu-Tex Oil Co.'s No. 1 Wilson, A. Floyd Survey, 2,320 feet to east line, 200 feet to south line, 400 feet north of No. 1 Davis, spudded in and shut down. M. O. Rayor's No. 1 M. August, A. Floyd Survey, 150 feet to southwest and southeast lines of 103.5-acre tract, has derrick up.

Kingsville Field—Kleberg

Humble Oil & Refining Co.'s No. A-5 Dennett, Section 39, Block 1, 400 feet east of No. 2 Dennett has derrick up; No. 2 Kivlin, Section 39, Block 5, is location 100 feet south of north line and due south of No. A-1 Dennett.

Adams Field—Medina

C. E. Lange and Jake Jarmon's No. 1 Adams, Survey 71, located 500 feet to north and west lines of Block 20, is shut down at 164 feet.

Saxet Field—Nueces

Alamo Drilling & Leasing Co.'s No. 1 Gallagher, Survey 158, located 1,215 feet to north line and 650 feet to east line, is about ready to resume drilling at 150 feet. Saxet Oil Co.'s No. 3 Weil, total depth 2,550 feet, has whipstocked and now is milling through casing at 2,450 feet. The Texas Company's No. 1 State, Survey 689, located 150 feet to west line and 425 feet to south line, has spudded in, set surface casing, and resumed drilling.

Refugio Gas Field—Refugio

Heap & Retherford's No. 1 Strauch, Refugio Townsite, center of 40-acre tract No. 13, at 3,800 feet tested big gasser with 600 pounds pressure open flow. Houston Oil Co.'s No. 1 M. F. Lambert, D. Fox Survey, 500 feet to CSL, at 2,011 feet has set casing. This well is an offset to Houston Gulf Gas Co's discovery well, No. 1 Tom O'Connor, 6 miles east of the present Refugio Field. Houston Gulf Gas Co.'s No. 1 Virginia Hallinan is drilling at 2,700 feet. Saxet Oil Co.'s No. 6-A Wilson Heard, Refugio Survey, 210 feet to north line and 540 feet to west line, has set casing at 2,860 feet.

White Point Field—San Patricio

Alamo Drilling & Leasing Co.'s No. 1 Hunter is reaming to set casing, total depth 1,880 feet. Houston Gulf Gas Co.'s No. 1 J. M. Bennett in Roos Subdivision is setting machinery. Saxet Oil Co.'s No. 14 Rachal, Rachal Survey, 155 feet to south and west lines, is drilling at 268 feet; No. 1 Hunter is erecting derrick.

West Gas Field—Zavala

Tritex Oil Corp.'s No. 2 West, Survey 43, depth approximately 800 feet, has been completed as a gas well.

LA.-ARK. WILDCATS

(Continued from Page 49)

ty, with the torsion balance on the strength of which they have leased about 15,000 acres and are negotiating for a well to go 2,500 feet unless the Paleozoics are topped higher up. There is considerable activity in geophysical work and leasing on the strength of what it reveals in southeastern Arkansas and if conditions in the producing end of the industry continue improving, that part of the country is apt to be the location of quite a bit of drilling before the year is ended.

Louisiana Wildcats

In Louisiana wildcat areas several things happened that may or may not turn out to be important but which are of present interest. In the first place, The Texas Company's wildcat in the Monroe district, No. 1 Myers, in Section 15-22-7, Morehouse Parish, is not backing up the encouraging symptoms reported a week or so ago, when it was supposed to have drilled into gas rock at around 2,530 feet. The company never put out any "dope" to the effect that it had the Monroe gas but the impression got out that it had found something worth testing, probably the Monroe gas horizon. The fact that 6-inch casing was cemented at 2,475 feet, total depth 2,530 feet, was probably the foundation for the rumors that got around; but, however that may be, when plug was drilled the well was bailed down 2,000 feet without a show and then bailer was run to bottom, coming up with a show of salt water.

Palmer Corp.'s West Carroll wildcat, No. 1 O'Brien in Section 7-19-11, cored a foot of gas sand at 2,350 feet and is arranging to set 6-inch for a test. It is figured that at this level the hole is 80 feet higher than a gas show developed in No. 1 White, Section 2-19-10, 1½ miles west. This show was sufficient to cause a blowout at 2,445 feet to which level the hole was plugged back from 2,849 feet, where it tested salt water, but the effort at reclamation was not successful. The show was, however, the warrant for Palmer Corp. taking on more acreage with a drilling clause attached. Prior to both these wells that part of northeast Louisiana had been prospected to greater or less degree and geophysical work through that whole country has resulted in a number of large blocks being taken, and there is evidently considerable faith in the petroliferous possibilities of that locality.

On the other hand, a wildcat in the northeast corner of Richland Parish, southwest of where all this scientific work is going on, has been temporarily abandoned and probably will be permanently forgotten later on. Woodley Petroleum Co. has quit work on No. 1 Osborn, Section 3-17-7, at 3,131 feet, where it has been shut down waiting orders for two weeks after not having obtained a show of any sort so far as reports go. Location is 10 to 12 miles away from Richland production.

Winn Parish

Another wildcat that will probably hold a great deal of attention because of past developments in the vicinity is Grier & Gault's No. 2 Bodcaw, Section 9-11-4, Winn Parish. In reality, the operators are going back to a hole they started a year ago and abandoned after hardly more than spudding, to finish a well that developed a show of oil no one has been able to figure out. This was their No. 1, same lease and section, which they finally abandoned at 3,300 feet. They were drilling with several hundred feet of open hole when oil began showing in the pit and when bailed they got much oil but they never could figure where it was coming from unless it was from a sand they went through somewhere between 700 and 800 feet. They never got another show.

Winn Parish is the location for another wildcat that will claim considerable attention, especially from the geologists, and particularly because of salt dome conditions revealed by three previous wells on the same lease. This one is H. M. Roark and others' (El Dorado, Ark., operators) No. 4 Southern Minerals Co., 150 feet east and 100 feet north of SW cor. Section 19-11-3w. No. 1 was abandoned in rock salt at 800 feet after drilling in it from 412 feet, and was located on the east side of the lessor's limestone quarry, the outcrop of which covering several acres furnished the inspiration for the well and the three that have followed. No. 2 on the north side of the quarry—probably an acre in area—was dry at 1,000 feet with no mention of rock salt, and No. 3 on the south side was abandoned at 525 feet, 70 feet in rock salt.

Empire Gas & Fuel Co.'s No. 1 Nicholson, Section 33-17-14, Caddo Parish, 2 miles east of Reisor in a particularly "wild" spot of the parish, is reported to have found a "high" in the lower Cretaceous at around 3,050-3,150 feet. The last report on the wildcat was that it cored broken lime at 2,079 feet. It is to be drilled, according to information, to 4,000 or 5,000 feet unless production of some sort is found higher up. There have been no wells drilled to any such depth in that part of the parish.

Southern Bossier

Since the recent activity in southern Bossier Parish around Elm Grove and Sligo districts, between those areas and the Cedar Grove area in Caddo on the opposite (west) side of Red River, considerable trading in leases, royalties and mineral rights has sprung up. Recent completions northwest of Elm Grove, in the proven area of that pool and the Sligo Syndicate's activities are probably the cause. Also, entry of Dupont interests in this part of the country with rumors, plans for extensive wildcatting have probably had some bearing on the case. Melding of H. S. Goodwin and William Gross in the Olmeda Gas Co. is construed in some quarters as being merely a consolidation of agencies. But, however that may be, southern Bossier is active, with Sligo Syndicate's 20-bbl. 40-gravity completion, No. 1 Jeter in Section 23-17-12, at 4,272 feet, about eight months ago, as the incentive.

Of four wildcat completions reported during the week two were in North Louisiana, one in Mississippi and another in Alabama. DeSoto Parish produced a small gas well, 2,000,000 feet at 765 feet, with the bottom 24 feet in broken sand, in Williams and others' No. 1 Fortson, on the strength of which they have started No. 2, same lease and section. H. M. Harrell abandoned his No. 1 Griffin, Section 17-19-1w, Lincoln Parish, as a dry hole at 2,553 feet.

In Mississippi, Amory Petroleum Co.'s No. 1 Dill, Section 12-13-18, Monroe County, was abandoned as a salt water hole at 2,463 feet as the last chapter of a tale of grief of various sorts from the time it was begun in June, 1927.

Laurence County Leaseholders, Inc., abandoned No. 1 Horton, Section 24-6-9, Laurence County, Alabama, in lime at 1,527 feet.

North Louisiana

Bienville Parish

S. P. Borden's No. 2 L. & A., Section 1-15-8, is drilling at 1,750 feet. Humble Oil & Refining Co. is drilling No. 1 Anderson, Section 29-18-5, in sandy lime at 3,140 feet.

Bossier Parish

H. S. Goodwin cemented 10-inch surface casing at 157 feet and is drilling No. 3 Curtis, Section 2-16-13, at 250 feet. Gross and others' No. 1 Stewart, Section 15-18-12, is drilling at 2,050 feet. D. P. Johnson's No. 1 Caddo, Section 13-17-13, tested dry at 835 feet and is drilling at 1,100 feet. Triangle Drilling Co. and Empire Gas & Fuel Co.'s No. 1 Bulkley, Section 9-20-13, is drilling at 2,166 feet.

Caddo Parish

Empire Gas & Fuel Co. is in broken lime at 3,079 feet on No. 1 Nicholson, Section 33-17-14.

Caldwell Parish

Greenwood Production Co. made drill stem test on No. 1 Caldwell Lumber Co., Section 27-13-5, at 1,627-37 feet and got 1,300 bbls. of salt water in 10 minutes, and is drilling at 1,900 feet.

Catahoula Parish

Leonard Petroleum Co.'s No. 1 Knott, Section 32-11-8, is drilling at 4,315 feet. The Texas Company is arranging to set 195 feet of 15½-inch surface casing in No. 1 Tensas, Section 4-10-6.

Claiborne Parish

El Dorado Chief Oil Co.'s No. 1 Jones, Section 8-20-6, is drilling lime at 1,900 feet.

DeSoto Parish

Gulf Refining Co.'s No. 35-A Jenkins, Section 35-13-12, is in shale at 2,148 feet. Williams and others completed No. 1 Forston, Section 4-12-11, as a small gasser and have rig up for No. 2 on the same lease and section.

East Carroll Parish

Palmer Corp.'s No. 1 O'Brien, Section 7-19-11, is in lime and black shale at 2,265 feet. The Texas Company's No. 1 Boone Live Oak Planting Co., Section 11-20-12, is drilling at 1,492 feet.

Monroe District

Morehouse Parish—Elbert Petroleum Co.'s No. 1 Morehouse Planting Co., Section 40-19-7, is drilling at 2,142 feet. Gulf Refining Co. is drilling black shale and streaks of rock at 2,225 feet in No. 1 Higginbotham, Section 42-20-7. The Texas Company's No. 1 Meyers, Section 15-22-7, drilled plug and bailed salt water at 2,530 feet. United Carbon Co.'s No. 1 Bastrop Pulp & Paper Co., Section 18-21-6, tested salt water and is arranging to deepen, present depth 2,413 feet.

Ouachita Parish—Phillips and others have cemented 820 feet of 8-inch casing in No. 1 School fee, Section 16-16-4. J. P. White's No. 1 Schmidt, Section 3-15-4, was dry at 2,720 feet and is drilling at 2,725 feet.

Union Parish—Carter & Goodwin's No. 1 Hudson, Section 7-23-1e, is shut down at 1,800 feet.

Rapides Parish

Glenmora Petroleum Co. is drilling gumbo at 3,800 feet on No. 1 fee, Section 1-2s-2w.

Richland Parish

Gulf Refining Co.'s No. 1 Millsaps, Section 8-17-6, is in gray lime and shell at 3,477 feet. Moody & Seagraves' No. 1 McDonald, Section 9-15-5, is drilling at 2,713 feet. Oliver & Masters' No. 1 Hatch heirs, Section 11-15-5, is drilling at 1,150 feet. Woodley Petroleum Co.'s No. 1 Osborn, Section 2-17-7, is temporarily abandoned at 3,131 feet.

Sabine Parish

R. L. Gray is drilling No. 1 Mansfield Hardwood Lumber Co., Section 15-7-15, at 2,496 feet. The Texas Company is in chalk rock at 2,116 feet on No. 1 Hamlin estate, Section 28-10-13. Zwolle Oil & Gas Co.'s No. 7 Bowman-Hicks, Section 14-7-14, is drilling sandy shale and shell at 3,901 feet.

Winn Parish

Calvin Oil Co. has derrick up for No. 1 L. & A. (formerly No. 2) in Section 9-11-4. Grier & Gault have gone back to No. 2 Bodcaw, Section 9-11-4, and are rigging up to drill the hole, reported abandoned April 10, 1927, after drilling surface clays. H. M. Roark has rig up for No. 4 Southern Minerals Co., 150 feet east and 100 feet north SW cor., Section 19-11-3.

Arkansas

Bradley County

Hurley and others are drilling No. 1 Southern Lumber Co., Section 26-15-10, with one joint of 10-inch surface casing in the hole. Johnson and Adams' No. 1 Southern Lumber Co., Section 12-12-12, is shut down, corrected depth 3,138 feet.

Chicot County

Crawford and others have rig up on No. 1 Cashion, Section 14-18-2e.

Dallas County

Decman and others' No. 1 Hillman, Section 20-10-13, is drilling at 1,690 feet.

Franklin County

Ozark Natural Gas Co. has made location in the C S half SE Section 16-8-27 for No. 1 Lee Deen.

Miller County

Bruton and others are drilling No. 1 Red River Farms, Section 2-17-26, in red gumbo at 3,292 feet.

Ouachita County

Timberlake and others' No. 1 Carnes, Section 27-13-17, topped the Nacatoch at 1,460 feet and is coring at 1,510 feet.

Ashley County

South Arkansas Gas & Fuel Co. has made location 250 feet south and east NW cor., Section 9-16-7, for No. 1 Holmes.

Union County

W. R. Keever's No. 3-B Ezell, Section 12-17-15, is waiting for standard rig to pump with 50 feet of oil standing in the hole from 4 feet of sand, total depth 2,129 feet. Lion Oil Refining Co. has derrick pattern on location for No. 1 Nash, Section 6-17-13. J. O. Moore and others' No. 1 Pagan, Section 18-18-11, was dry at 2,634-40 feet on drill stem test, drilled to 2,650 feet and is arranging for another test of the additional 10 feet. Ouachita Natural Gas Co. has made location in the NW cor. NW NW, Section 33-16-14, for No. 1 Perdue. Pure Oil Co.'s No. 1 W. E. Gregory estate, is a derrick 160 feet south and 215 feet west NE cor. NW NE, Section 15-17-14. Rhodes and others are arranging to make a drill stem test of 27 feet of broken

formation in No. 1 Union Saw Mill Co., Section 14-19-11, total depth 2,794 feet. Simon and others' No. 1 Jerry, Section 21-17-14, has 10-inch surface casing set at 92 feet.

East Texas

Cass County

Hickman and others' No. 1 Mott, Ambrose Douthitt Survey, is shut down at 2,675 feet on account of high water.

Shelby County

Magnolia Petroleum Co.'s No. 2 Pickering, W. J. Crane Survey, cored chalk rock at 2,210 feet.

Mississippi

Alcorn County

Alcorn Petroleum Co.'s No. 1 Matthews, Section 14-2-7, set 8¼-inch casing at 571 feet to cut off fresh water flow, and 6-inch at 694 feet; drilled to 984 feet and is pulling 6-inch to reset at 984 feet.

Chickasaw County

Hightower & Goldsten's No. 1 Davis, Section 20-13-3, is shut down at 465 feet.

Claiborne County

Ben W. White's No. 1 Old Hen, Section 36-10-4, is shut down at 810 feet and Jink and others' No. 1 Krause, Lot 2, NW Section 56-11-1, is shut down at 2,622 feet.

Jackson County

Zing and others are cleaning out No. 1 DeLamorton, Section 15-6-7, total depth 2,240 feet.

Jasper County

Bay Springs Oil & Gas Co.'s No. 1 Thigpen, Section 23-2n-10, is shut down at 1,260 feet on account of litigation.

Lauderdale County

Lauderdale Oil & Gas Co.'s No. 1 Gunn, Section 13-7-16, is shut down waiting orders at 3,487 feet.

Lee County

Moody & Seagraves' No. 1 Whitesides, Section 16-9-7, is shut down waiting orders at 3,165 feet, contract depth 3,150 feet.

Monroe County

A. M. Sutton's No. 1 Acker, Section 25-13-19, killed fresh water flow and waiting orders at 674 feet. The Texas Company and Transcontinental Oil Co.'s No. 1 Day, Section 18-16-18, drilling black slate at 3,960 feet, contract depth 4,000 feet.

Simpson County

O. C. Graves' No. 1 Kendall, Section 15-2-4, drilling at 2,550 feet.

Washington County

Alhambra Oil Co.'s No. 1 Williams, Section 31-14-9, shut down for funds at 2,210 feet.

Webster County

Cumberland Oil Co.'s No. 1 Henley, Section 15-21-11, setting 8-inch casing at 1,420 feet to test Ripley formation.

Alabama

Franklin County

Pittsburgh Oil & Development Co.'s No. 1 Hobson, NE NE SW, Section 26-8-14, is shut down at 4,000 feet.

Houston County

Sealy and others' No. 1 fee, Section 23-1n-27, began drilling in October, 1927, set 8-inch casing to kill fresh water flow at 850 feet and is shut down at 1,200 feet changing to rotary tools.

Lawrence County

Fidelity Oil & Gas Co.'s No. 1 Jacobs, SW cor. C, Section 11-7-7, began drilling April 6 and is drilling at 300 feet. Lawrence County Leaseholders, Inc.'s No. 1 Horton, Section 24-6-9, was abandoned in lime at 1,527 feet. Greater Huntsville Oil & Gas Co.'s No. 1 Sandlin, C Section 24-7-6, is drilling at 1,022 feet.

Marion County

Albany-Decatur Oil Co.'s No. 1 English, Section 6-6-4, is fishing for 4½-inch casing, total depth 4,130 feet. Hobson and others' No. 1 Clark, Section 29-11-14, is rebuilding derrick.

SOUTHWEST WILDCATS

(Continued from Page 46)

Duval County

National Oil Co.'s No. 1 Ball, Survey 16, located 450 feet to north line and 150 feet to east line, is standing at 2,212 feet. Houston Oil Co.'s No. 1 Woods-Welder, Survey 233, located 1,750 feet to west line and 100 feet to north line, is drilling at 3,308 feet. Partee and others' No. 1 Hahl, Block 16, Survey 78, located 500 feet to north line and 150 feet to west line, is drilling at 600 feet.

Hidalgo County

Queen City Oil & Gas Co.'s No. A-1 Adams, Survey 82, located 2,640 feet to north line and 1,320 feet to east line, is drilling in gumbo at 130 feet. Hargil Oil Co.'s No. 1 D F. Stevenson, Las Mestines tract, is a location 150 feet to south and east lines.

Jim Hogg County

M. I. Shaw and others' No. 1 Jones, Survey 381, Block 12, located 171 feet to south line and 486 feet to west line, is standing at 2,290 feet. Holden and others' No. 3 Jones, Share 27, Block 136, located 330 feet to east line and 440 feet to north line, is drilling at 2,555 feet.

LaSalle County

E. V. Chenoweth's No. 1 Irvin, located north of Las Angeles, made a good water well around 2,600 to 2,900 feet, exact depth not known, but had two water sands at around those depths. Southwestern Petroleum Co.'s No. 1 H Beckwith, 1,320 feet south of Nueces River and 1,380 feet to northwest lines of Survey 19, is drilling at 700 feet with flowing water at 165 feet and another at 400 feet.

Starr County

The Texas Company's No. 1 M. Guerra, Porcion 68, Block 91, located 1,000 feet to east line and 150 feet to south line, is drilling at 2,680 feet. J. V. McAleese and others' No. 1 Hicks & Hicks, Perdernal grant, 150 feet to northeast lines and southeast lines, is drilling at 320 feet. Kusch Exploration Co.'s No. 1 Frank Dyno and others Porcion 75, Block 13, is drilling at 760 feet.

Zapata County

Hill, Reiser & Weed's No. 1 H. Rodriquez, Block 1, R. V. Hill Subdivision, 870 feet to northwest lines and 450 feet to northeast lines, is drilling at 990 feet.

Atascosa County

Eckert and associates' No. 1 Blake, 5 miles northeast of Campbellton, has spudded in and set surface casing at 86 feet.

Bastrop County

Noack & Laning's No. 1 Roemer, Isaac Casner league, shut down at 1,935 feet. Gypsy Producing Co.'s No. 1 Pritchett, is drilling. J. F. Miller Drilling Co.'s No. 1 Ed Jones, 150 feet to north and east lines of 34.5-acre tract, is drilling at 150 feet. Rundus & Landua's No. 1 Frank Rundus, at Bartens Creek and Smithville-Cistern Road, has been spudded in and set 40 feet of 10-inch casing.

Bexar County

Allen Brunam's No. 1 Ward, A. A. Gardiner Survey, southwest of Martinez, is drilling at 1,100 feet in base of Taylor marl. Larsen-Walsh and others' No. 1 Oppenheimer, William Miller Survey, No. 180, located 330 feet to south line and 330 feet east of center of survey, is drilling at 1,940 feet, probably in the Georgetown. C. J. LeCompte's No. 2 Diaz, Survey 32, Block 4,283, is shut down at 72 feet on rock. F. H. Meyer's No 1 B. Biering is shut down at 140 feet.

Bee County

D. Hewitt's No. 1 Ray, northeast of Pettus, is shut down at 2,410 feet; No. 1 Schultz is drilling at 1,200 feet. Red Ant Oil & Gas Co.'s No. 1 Perry & Chestnut, B. Q. Hadley Survey, 6½ miles west of Pettus, is shut down at 1,375 feet.

Blanco County

C. W Bates' No. 1 Herman Massey, Henry Manton Survey, 920 feet to north line and 660 feet to east line, is fishing at 214 feet. Robert Rodson's No. 1 Glasscock, Survey 50, has resumed drilling at 435 feet with cable tools.

Caldwell County

R. M. Bruner and W. H. Ballard's No. 1 Davis, 4 miles northeast of Joe Bruner's No. 1 Davis has derrick up Sutton & Smith's No. 3 Carter, a few miles north of Joe Bruner's No. 1 Davis, is moving out derirck material. Louis P. Schawe's No. 1 Ted Schawe, Thomas Maxwell Survey, 6,111 feet to southeast lines and 6,986 feet to northeast lines of survey, topped chalk at 769 feet showing considerable gas.

Comal County

George Kruger's No. 1 Witmore Decker, A. Gayetan Survey No. 194, is a location in the southeast corner.

DeWitt County

Durbin Oil Co.'s No. 1 Gohmert, G. W. Brooks league, is shut down at 3,013 feet. Empire Southern Oil Co.'s No. 2 Smith, Survey 3, is shut down at 3,150 feet. H T. Roe's No. 1 Lienhard, D. J. Bibb Survey, is shut down at 950 feet.

Frio County

Karnes and others' No. 1 J. J. Little, B.S.&F. Survey No. 2, located 340 feet to east line of survey and 300 feet south of Medina-Frio County line, is shut down at 607 feet. Blue Ribbon Oil & Gas Co.'s No. 1 Edwards, Hooper & Wade Survey, 920 feet to CNL, is in sand at 2,350 feet and coring. P. A. Neilan's No. 2 Blackaller, James Gouley Survey, is standing at 2,960 feet.

Gonzales County

The Texas Company's No. 1 Denman, A. Zumwalt Survey, 100 feet to south and west lines, is in hard sandy blue shale at 800 feet. L. P Unkel's No. 4 W. W. Johnson in the shallow Slayden Field is nearing pay formation found in another well at 601 feet.

Guadalupe County

O. W. Killam's No. 1 Bailey, William R. King Survey, 150 feet to east line and 450 feet to north line of farm, has spudded in. J. M. Rentz' No. 1 Siligman & Freeman, Gustavus Chotwell Survey, 1,100 feet to southwest lines of farm and survey and 1,300 feet to southeast lines of farm, is shut down at 690 feet, with no chalk yet. Wolf Creek Oil Co.'s No. 1 Mrs. L. Hocke, Harriet Cottle Survey, 150 feet to north and west lines of Mrs. L. Hocke 54-acre tract, is location.

Hays County

Estess-Moore & King's No. 1 C N. Sledge, Hunton & Jones Survey, 1 mile from Kyle, is drilling at 130 feet J. E. Rodgers' No. 1 Hohenburg, 2½ miles east of San Marcos, is bailing again at 2,189 feet.

Jackson County

J. B. Douglas' No. 1 C. O. Lowrance, 12 miles northwest of Edna, is drilling water well.

Jim Wells County

Cushing Oil & Gas Co.'s No. 1 M. Perez, La Tinaja Survey, 600 feet to north and east lines, is drilling at 1,150 feet.

Medina County

F. Banderet's No. 1 Mofield, Survey 532, standing. California-Medina's No. 1 Rothe, Survey 1,012, standing at 3,275 feet. Medina Oil Co.'s No. 1 Taylor, Survey 135, standing at 1,243 feet. Cecil Switzer's No. 1 Zerr, Survey 459, standing at 3,485 feet.

Karnes County

Reynosa Oil Corp.'s No. 2 Butler, Block 43, located 1,000 feet south of No. 1, is shut down at 2,007 feet.

Kerr County

Walker-Van Duyn's No 1 Barfield, B. B. Peck Survey, 4,700 feet to north line and 450 feet to east line, is shut down at 2,100 feet.

Live Oak County

War. Wood Hunt's No. 1 McNeil, Jane Curry Survey, is standing at 2,550 feet.

Maverick County

Ryan Consolidated Petroleum Co.'s No. 1 Indio, Survey 14, is drilling in lime at 4,400 feet. Rycade Oil Corp.'s No 1 Chittim, Section 129, Block 7, is standing at 4,295 feet; No. 2 Chittim, Section 158, Block 7, at 5,335 feet has showing of oil and gas.

McMullen County

Houston Gulf Gas Co.'s No. 6 Jacob is location.

San Patricio County

Harry Carter has derrick up for No. 1 Mayfield. Houston Gulf Gas Co.'s No. 2 Waelder, Calixto Survey, east central part of the lease, is drilling at 2,800 feet. National Oil Co.'s No. 1 Sullivan, J. C. McMullen Survey, 500 feet to SW cor., is drilling at 2,542 feet with 153 feet of shale and gumbo, now in lime rock. George Pickett's No. 1 Whitworth, NW NW Section 60, is drilling at 3,000 feet; No. 1 Garrett is standing at 3,030 feet. John Sigmund's No. 10 Robinson 60 feet south of No. 9, is deepening from 1,900 feet.

Travis County

T. P. Garrett's No. 1 Paul Rowe, R. Hornsby Survey, 900 feet to north and east lines, and 8 miles east of Austin, is standing at 1,025 feet in top of Edwards with sulphur water. W. J. Hill's No. 3 fee is shut down at 400 feet.

Uvalde County

Pure Oil Co.'s No. 1 J. D. Smythe, Survey 687, located 740 feet to north line and 146 feet east of southeast corner of Section 20, is at 2,378 feet.

Victoria County

J. J. Elam's No 1 Vol Kutchka, 200 feet to center of north line of Section 40, is at 1,420 feet.

Val Verde County

Valvert Oil Corp.'s No. 1 Bassett, C NE Section 47, Block Y, is moving on. East Del Rio Oil Co's No. 1 Russell, Section 183, is shut down at 3,325 feet. Independent Operators' No. 1 Whitehead, Section 30, Block 4, is shut down at 3,900 feet. Magnolia Petroleum Co.'s No. 1 Whitehead, Section 81, is drilling at 6,655 feet in black shale and lime. O. O. Owens and others' No. 1 Mills, Section 128, is standing at 4,210 feet. W. V. Traves' No 1 Wilson, Section 115, is standing at 905 feet.

NORTH LA.-ARK.

(Continued from Page 49)

off 1,005 bbls. and heavy oil 5,835 bbls. Daily average runs from the field for the several pools were:

Louisiana

	Bbls.
Caddo, light	10,165
Caddo, heavy	5,835
Homer	4,440
Haynesville	6,320
DeSoto-Red River	4,150
Elm Grove	550
Bellevue	1,080
Cotton Valley, light	3,625
Cotton Valley, heavy	4,410
Urania	7,310
Pleasant Hill	595
Total	46,480

Arkansas

El Dorado	5,300
Smackover, light	7,130
Smackover, heavy	57,945
Stephens	1,050
Nevada County	1,420
Lisbon	2,250
Champagnolle	3,300
Bradley County	100
Total	78,495
Total both states	124,975
Last week	132,945
Decrease	7,970

NORTH LOUISIANA

Bossier Parish

Cartersville—J. R. Bahan is drilling 6-inch plug from No. 1 Kilgore, Section 31-23-11 Delaware-Louisiana Development Co. is drilling No. 4 Bollinger, Section 38-23-11, at 150 feet. Louisiana Oil Refining Corp. got a lost swab out of the hole after a two weeks' fishing job and is cleaning out No. 1 Blanton, Section 23-23-12, total depth 3,085 feet.

Elm Grove and Sligh—Gross and others have taken over Ellis & Markley's No. 5 Hunter, Section 14-16-12, and are arranging to set 6-inch casing at 1,898 feet. Olmeda Gas Co. has cemented 140 feet of 10-inch surface casing and 1,824 feet of 6-inch in No. 1 Mayer, Section 30-16-11. Palmer Corp. has 6-inch cemented at 1,874 feet on No. 1-B Caplis, Section 25-16-12. R. O. Roy has 12½-inch surface casing set at 35 feet on No. 1 Caplis, Section 25-16-12. Sligo Syndicate's No. 2 Skannal, Section 14-17-12, is drilling at 1,510 feet. Woodley Petroleum Co has set 100 feet of 10-inch surface casing in No. 1 Whitehouse, Township 16, Range 12. Because high water in Red River washed out markers of section lines and corners in that part of the country, check location on this well is rather unusual—23,250 feet east and 2,783 feet north SW cor. Township 16, Range 12.

Caddo Parish

Greenwood—Belchic & Laskey's No. 4 R. T. Sharp, Section 10-18-16, is drilling lime at 2,300 feet. Greenwood Production Co.'s No. 1 Cushman & Bridges, Section 15-18-16, was dry at 912 feet and will be deepened. Gross and others' No. 1 Baker, Section 35-17-16, is drilling at

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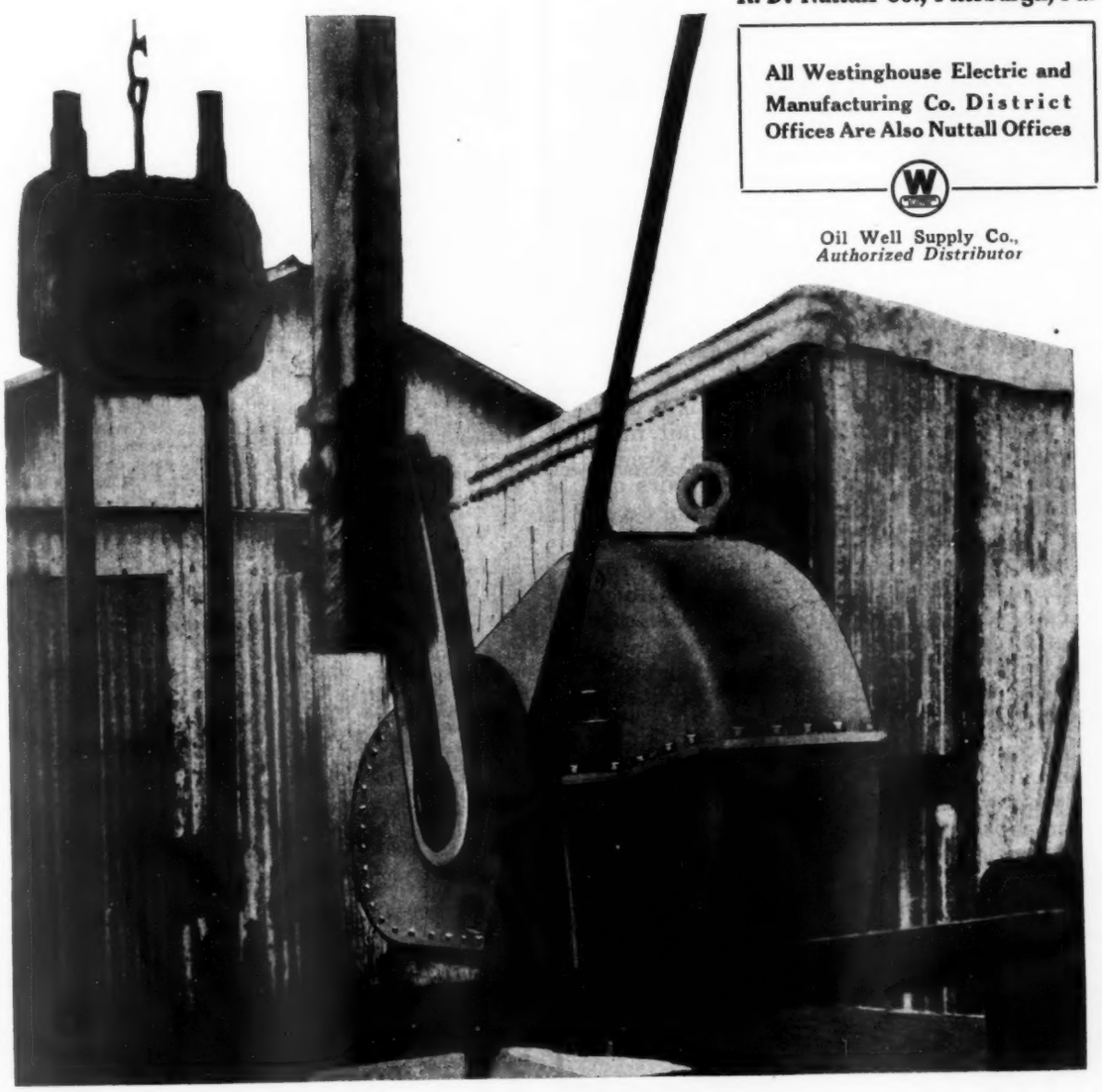

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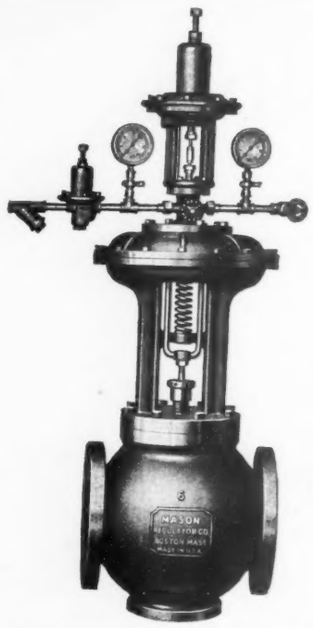

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1933

830 feet. Magnolia Petroleum Co.'s No. 2 Bell, Section 4-17-16, in lime from 2,500-3,025 feet, is drilling shale at 3,184 feet.

Oil City—Shreveport Oil Corp.'s No. 3 Muslow, Section 32-21-15, is drilling at 2,000 feet.

Pine Island—Bayou State Oil Co.'s No 1-C Jolly, Section 27-22-15, was dry at 2,284 feet and is drilling rock at 2,306 feet. Dixie Oil Co., deepening No. 9 Clark in Section 14-21-15, completed January 12 flowing 160 bbls. at 3,956 feet, is in shell at 3,976 feet; No. 92 Dillon, Section 13-21-15, has a drill stem stuck at 4,382 feet. Gulf Refining Co. is arranging to deepen No. 12 Tyson, Section 14 21-15, completed July 9, 1926, with 42,000,000 feet of gas and a little oil at 3 819 feet. Magnolia Petroleum Co.'s No. 8-A Hampton, Section 15 21-15, is fishing for 20 joints drill stem, total depth 4,039 feet; No. 22 Robertshaw, Section 23-21-15, cored hard sand at 4,049 feet. Simms Oil Co.'s No. 1 Glassell, Section 23-20-15, is running 6⅝-inch casing, total depth 2,206 feet Simplex Oil Co. will abandon No. 3 Baird, Section 22-20-15, which tested 5 bbls. of oil at 2,265 feet. The Texas Company will deepen No 47 Caddo Mineral Lands in Section 23-21-15, abandoned as a dry hole last Febraury 23 at 3,657 feet, and is milling on a lost bit.

LaSalle Parish

H. F. Taylor's No. 7 Uranis, Section 19-20-2e, is drilling at 1,200 feet.

Monroe District

Ouachita Parish—Jordan Drilling Co. has 12½-inch surface string cemented at 186 feet and 8-inch at 856 feet on No. 1 Coll, Section 50-18 4. Montgomery and others are drilling No. 1 Johnson, Section 30-19 4, at 2,070 feet. Ouachita Natural Gas Co.'s No. 1 Patton is a derrick 1,320 feet south and 660 feet west NE cor. Section 33-19-3. Palmer Corp 's No. 1 Kate Cole, Section 26-20-4, is in gumbo at 1,740 feet. Southern Carbon Co. has derrick up for No. 9 Fairbanks, 660 feet north and 580 feet east SW cor. Section 34-20-4; No 50 fee, Section 18-19-4, cemented 6-inch at 2,158 feet.

Union Parish—Industrial Gas Co. has drill stem stuck at 2,168 feet on No. 1 Lewis, Section 14-20-3; United Carbon Co. is rigging up on No. 1 J. G. Trimble, Section 19-20-4.

Richland Parish

Dixie Oil Co. tested salt water at 2,482 feet on No. 1 McCoy, Section 29-16 6, and will go deeper. It was dry at 2,454 feet and had 1,000,000 feet of gas with the water on the last test. W. C Feazell is drilling in on No. 1 Noble, Section 36-16-5, at 2,430 feet; Feazel & Hemler's No. 1 Pardue, Section 21-16-6, is drilling at 1,521 feet. Gulf Refining Co.'s No. 3 Rhymes, Section 28-17-6, is in lime at 3,262 feet. Moody & Seagraves' No. 1-B Sartor, Section 9-16-6, is in lime at 2,190 feet. Natural Gas & Fuel Corp.'s Nos. 3-C and 4-C, Section 21-16-6, are pumping mud into offset crater, total depth 2,465 feet. Oliver & Masters' No. 1 Morrison, Section 2-15-15, has 10-inch second string cemented at 810 feet. Ruston Drilling Co.'s No. 1-B Sartor, Section 9-16-6, is drilling at 2,300 feet. Southern Carbon Co. is rigging up on No. 3 Sartor, Section 18-16-6.

Sabine Parish

Magnolia Petroleum Co.'s No. 1-B Hall, Section 33-10-12, cored shale and lime at 3,125 feet hunting for 6-inch casing seat.

Webster County

Cotton Valley—Dixie Oil Co. is down 300 feet with No. 1 Cox, Section 15-21-10 Humble Oil & Refining Co. has derrick pattern on location for No. 1 R. R. Cox, 660 feet east and 330 feet south NW cor. NE Section 22-21-10; No. 6 Davis, Section 14-21-10, cemented second string, 10¾-inch, at 2,819 feet; No. 2 Webb, Section 14-21-10, is in lime at 2,979 feet. Louisiana Oil Refining Corp.'s No. 5 Crichton, Section 21-21-10, is rigging up; No. 1 Davis, Section 23 21-10, completed April 13, 1927, with 5,000,000 feet of gas at 4,371 feet, is in lime at 4,430 feet; No 4 Lindsey, Section 22-21-10, cemented 12½-inch surface casing at 454 feet and is drilling at 1,407 feet.

Magnolia Petroleum Co.'s No. 3 Aarnes-Cox, Section 22-21-10, cemented 313 feet of 13⅜-inch surface casing; No. 1 D. G. Cox, Section 22-21-10, cored lime at 4,709 feet; No. 5 S. J Merritt, Section 14-21-10, is a location. R. W. Norton's No. 1 Josey & Massey, Section 27-21-10, is fishing for 10 joints of liner, total depth 4,657 feet. Ohio Oil Co. has begun drilling No. 39 Bodcaw, Section 15-21-10, and No. 41 Bodcaw in the same section. Palmer Corp.'s No. 1 J. M. Mixon, Section 22-21-10, is in shale and lime at 2,800 feet. Woodley Petroleum Co. is arranging to drill cement from 4 354-4,590 feet in No. 1-B Cox, Section 23-21-10, and deepen to 4,600-foot pay; No. 1 Duhe is a derrick in C SE NW Section 22-21-10; No 1 Lewis, Section 15-21-10, has 15½-inch surface casing cemented at 450 feet.

Sarepta and Shongaloo—Arkansas Natural Gas Co. is drilling 6⅝-inch plug at 2,682 feet on No. 1 Mitchell, Section 30-23-9. Magnolia Petroleum Co. tested 500 000 feet of gas at 2,735 feet on No. 1 Camp, Section 36-23-10, and will go deeper; No. 1 Viola Mitchell, Section 31-23-9, is bailing to test, total depth 2,061 feet; No. 1 Leona Sexton, Section 32-23-9, is a derrick.

ARKANSAS

Ouachita County

Smackover—Little Fay Oil Co.'s No. 7 Robertson, Section 25-15-16, is drilling at 1,030 feet with three joints of 10-inch surface casing set at 61 feet. Ohio Oil Co's No. 7 Cramer, Section 22-15-16, is reaming to bottom, total depth 3,187 feet. Sinclair Oil Co., deepening No. 7-A Berry, Section 33-15-15, from 2,405 feet, tested 3,000,000 feet of gas at 2,640-53 feet and cemented 4½-inch casing at 2,640 feet, total depth 2,653 feet.

Stephens—Buffalo Oil Co. has derrick up for No. 1 Laughlin, Section 22-15-19.

Union County

Champagnolle — Arkansas Drilling Co. cemented 12½-inch surface casing at 150 feet on No. 1 Carroll, Section 1-17-14; No. 1 Rowland, Section 15-17-14, is drilling at 2,840 feet. O. W. Estes' No. 1 Rowland, Section 14-17-14, is drilling at 200 feet with 10 inch casing cemented at 83 feet. H. L. Hunt's No. 1 J. D. Gregory is a derrick in SE cor. SW SE Section 10-17-14. Magna Production Co. has derrick up 330 feet south and 150 feet west NE cor. NW SW Section 11-17-14, for No. 2 Dumas; is rigging up on No. 3 Dumas, 660 feet north and 150 feet east SW cor. NE NW SW, same section; has location 200 feet east and north SW cor NW SW Section 14-17-14, for No. 1-B Rowland and is swabbing No. 2 Rowland, Section 14-17-14, total depth 2,974 feet, with the bottom in 14 feet of sand.

Magnolia Petroleum Co. has derrick up for No. 3 Carroll, in Section 1-17-14. C. E. Murdock's No. 2 J. N. Gregory, Section 10-17-14, is down 800 feet with 10-inch surface casing set and cemented at 167 feet. Ohio Oil Co.'s No. 1 T. E. Adams is a location 150 feet west and 175 feet north SE cor. W half SW NW Section 11-17-14; No. 1 Lochner is a location 150 feet north and east SW cor. SE NW Section 11-17-14; No. 2 W Pumphrey, Section 1-17-14, has 10-inch set at 173 feet and is drilling at 260 feet; No. 1 W. S. Rowland is a derrick 160 feet south and 200 feet west NE cor. SE NE Section 15-17-14, and No. 1 R. A. B. Smith is a derrick 330 feet north and west SE cor. NE NE Section 1-17-14.

Pure Oil Co. has rig up for No. 2 Gregory, Section 11-17-14, and for No. 3 Gregory, 150 feet south and east NW cor. SW SW Section 11-17-14; No. 4 Gregory is a derrick 210 feet west and 180 feet north SE cor. SE SE Section 10-17-14, and No. 5 Gregory is a derrick 150 feet north and 215 feet east SW cor. SE SE Section 10-17-14; No. 1 J. M. Gregory is a derrick 510 feet south and 150 feet east NW cor. NE SW, Section 11-17-14, and No. 1 W. E. Gregory is a derrick 160 feet south and 215 feet west NE cor. NW NE, Section 15-17-14. Rushing and others cemented 4½-inch casing at 3,192 feet to test 14 feet of sand in No. 1 E. F. Gregory, Section 11-

17-14, total depth 3,206 feet. Timberlake and others' No. 1 Dumas, Section 11-17-14, is drilling at 650 feet with 12½-inch casing set at 150 feet.

Smackover—Lion Oil Refining Co. is arranging to deepen No. 3-H Murphy, Section 9-16 15, completed February 5, 1927, flowing 1,500 bbls. fluid, 93 per cent salt water, at 2,436 feet. Rice and others have rig up for No. 1 Heinman & Meyers, center west line SW NE Section 23-16-16. F B. Wood, trustee, is drilling No. 2 Spahr, SW cor. NW NE Section 34-15-16, at 1,850 feet.

East Texas

Harrison County

Magnolia Petroleum Co.'s No. 2 A. G. Vincent, in the R. W. Bedford Survey, is coring hard lime at 2,575 feet.

Panola County

S. H. Gardner and others' No. 3 Cavin, B. C. Jordan Survey, is drilling at 1,950 feet. Magnolia Petroleum Co. cored gray shale at 2,549 feet on No. 1 T. C Adams in the J. M. Birdsong Survey; No. 1 Martha Richardson, Benson Lovell Survey, is in sandy shale at 1,922 feet; No. 4 G. C. Tiller is a derrick 3,150 feet west and 1,040 feet north SE cor. Jane Thorpe Survey; No. 1 Leigh Trosper, B. Stevenson Survey, cemented 6⅝-inch casing at 2,678 feet and No. 1 S. R. Vance, Jacob Womack Survey, cored chalk rock at 1,716 feet. Natural Gas Products Co.'s No. 3 Roquemore, B. C. Jordan Survey, is arranging for a drill stem test at 2,300 feet; No 4 Roquemore, 6,203 feet east and 6,969 feet south NW cor B. C. Jordan Survey, has rig up. The Texas Company cemented 6¼-inch casing at 998 feet on No. 3 G. W. Brumble, Evans Brackins Survey.

GULF COAST FIELDS

(Continued from Page 56)

Grawunder is in sandy shale at 3,218 feet.

Humble Oil & Refining Co. has abandoned the location it had staked for No. 3 Warren-Tex-Ex but has made a location for No. 4 and is rigging up. A rig also is up for No. 3 Warren.

Humble company also has staked a location for a wildcat in Colorado County on the west side of the Colorado River. This will be the No. 1 Dittman, 6,500 feet from the north line and 7,500 feet from the west line of the Whiting & Osborn Survey. Two other Colorado County wildcats were abandoned early in the week, these being E. M. Masterson's No. 1 Auerback, 4 miles northwest of Glidden, and B. A. Johnson's No. 1 Breeding, 2 miles northwest of Glidden. Two other tests still are drilling in this county, Waldvogel and associates' No. 2 Tanner being down 1,000 feet, and Rich Oil Corp.'s No. 1 Von Rosenburg, 2,305 feet.

In Waller County, John R. Young and associates have a location for another wildcat, No. 1-B fee, 8 miles south of Hempstead in the Justi Liendo League, 722 feet south and 277 feet east from the southeast corner of the J. E. Grosse Survey. Goldsmith, as trustee, has a location in Fort Bend County for No. 1 Theodore Rose, 2½ miles east of Needville in the H.&T.C. Survey, Section 41.

At DeWalt, Fort Bend County, Humble Oil & Refining Co. has started drilling in its second test, No. 1 Brazos. Surface casing was set at 62 feet. Three miles to the south in the Thompson district, Vacuum Oil Co. is rigging up for No. 1 Levy.

Roxana Petroleum Corp. is abandoning its No. 1 Watkins in the Black Bayou district of Cameron Parish, Louisiana, after drilling into gypsum at 1,232 feet. A wildcat location has been staked in East Baton Rouge Parish, east of the Mississippi River, by the Capitol Oil Co., this being No. 1 Tucker.

At Feussa Point, Iberia Parish, Gulf Production Co.'s No. Z-4 State has 300 feet of oil in the hole from sand at 1,163-83 feet and is being rigged up to pump.

Blue Ridge—Fort Bend County

H. R. Cullen has made location for No. 3 Blakely. His No. 2 Blakely still is a derrick. No. 2 Davidson is drilling at 3,982 feet and No. 1 Luscher at 5,000 feet. Gulf Production Co.'s No. 11 Blakely is drilling at 3,725 feet while No. 13 Luscher has just started drilling. Navarro Oil Co. also has location for another test, No. 5-A Robinson and is building a derrick. This company's No. 4-B Robinson is drilling at 3,824 feet. Bowden Oil Co. (H. G. Nelms and associates) is drilling at 1,135 feet in No. 2 Overly. Sinclair Oil & Gas Co.'s No. 1 Davidson is down 3,574 feet. Watts Brothers Oil Co., which got a good well 10 days ago extending Blue Ridge 500 feet northwest, has a location for another test, No. 4 Blakely, and is rigging up. No. 3 Blakely is drilling at 3,530 feet.

Big Creek—Fort Bend County

Gulf Production Co. has rigged up to deepen No. 25 Davis and has started drilling in No. 46 Davis, the latter a new test. It is drilling at 1,000 feet. Navarro Oil Co. also is to drill at Big Creek, the test to be No. 1 Davis (Hampel), in the Barnabas Wickson Survey, Block 30.

Hardin County Domes

East Batson Oil Co. is starting a new test, No. 6 Conzelman, at Batson. Two other tests are drilling at Batson. Hill & Dowell's No. 96 Milhome and Paraffine Oil Co.'s No. 72 Paraffine. The latter is deepening after an unsuccessful test at 976 feet, now being down below 1,100 feet.

At Saratoga, Gulf Production Co. is putting its No. 26 B B.B.&C. on the pump in a sand at 1,470 feet. The only other two tests at Saratoga were being bailed at the close of the week, Paggi Brothers' No. 45 Queen City for a test at 1,196 feet, and Rio Bravo Oil Co.'s No. 83 Jordit at 1,155 feet.

Gulf Production Co.'s No. 1 Hamman at Sour Lake is drilling at 4,345 feet. Humphreys Corp.'s No. 1-G Bashara, an old well to be deepened, is sidetracking at 3,765 feet.

Pierce Junction—Harris County

Abercrombie & Harrison's No. 1 Ritter is drilling at 2,900 feet. Anderson & Plummer are rigging up for No. 3 Whitehead. H. R. Cullen's No. 5 Howe is drilling at 2,185 feet and No. 1 Brock at 2,310 feet. Gulf Production Co. still is cleaning out hole to deepen No. 19 Taylor; Gulf's No. 25 Taylor is drilling at 4,626 feet. This company is milling casing in No. 1 Perry to deepen. Leonard and associates' deep test southwest of the field, which went to a depth of 5,940 feet, is sidetracking after an unsuccessful fishing job. Moody Corp. is drilling at 3,278 feet in No. 1 Settegast. No. 1 Armstrong tested dry at 5,566 feet, but is to be deepened. This company has started another test, No. 2-A Whitehead. Rio Bravo Oil Co.'s No. 5-A Settegast tested salt water at 3,707 feet. This company is starting another test, No. 10-A Settegast. Wood & Lee's No. 1 Settegast is drilling at 3,115 feet.

Goose Creek—Harris County

Gulf Production Co. is rigging up to pump its No. 12-A Tubb after swabbing failed to make a flowing well from the sand at 3,496 feet. Gulf also is rigging up to deepen No. 10 Prather. Humble Oil & Refining Co. has set 6⅝-inch casing in No. 73 Simms Smith, this test being at a total depth of 6,159 feet. Port City Oil Co. has set strainer and is washing No. 2 Gaddey. This test is in a sand at 2,094 feet.

Spindletop—Jefferson County

Battleship Oil Co.'s No. 1 Keith on the northeast flank is drilling at 800 feet. On the east side, Sun Oil Co.'s No. 1 Prather is drilling at 4,328 feet. The Texas Company's No. 1 Gladys City on the west side, about 4 miles from the main part of the field, is drilling around 4,300 feet. North of Spindletop, Traders Oil Corp.'s No. 1 Cissell is down 4,575 feet. Gulf Production Co. has set liner for a test at 4,224 feet in No. 1 Jeanette Mann. Gulf's No. 13 Oakwood is drilling at 5,536 feet, and its No. 19 McLean at 5,210 feet. Sun Oil Co.'s No. 4 McLean is drilling at 5,440 feet.

Hull—Liberty County

Gulf Production Co. is spudding in No. 91 Phoenix and its No. 20 Phoenix is drilling at 3,015 feet. Houston Production Co.'s No. 4 Taylor is down 4,610 feet. Republic Production Co. has set

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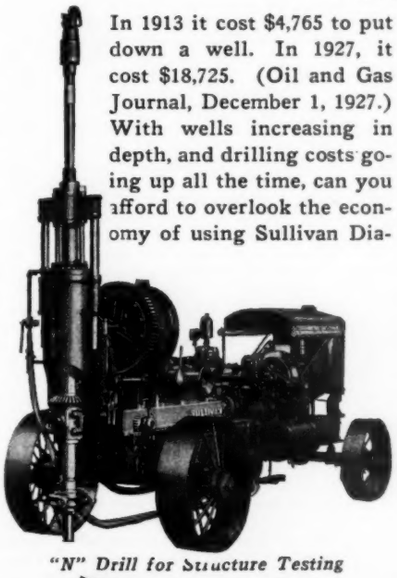

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strainer for a test at 2,776 feet in No. 56 Dolbear, and also has set strainer in No. 77 Dolbear at 2,378 feet. The Texas Company is starting drilling in No. 1 Carr. The latter's joint test with the Vacuum Oil Co., No. 6 Hannah, is in a sand and shale at 3,389-3,575 feet and has been coring.

Orange—Orange County

Gulf Production Co.'s No. 8 Chessom is drilling at 4,167 feet and the same company's No. 12 Peveto at 3,360 feet. Orange Petroleum Co. is deepening No. 6 Winfree, drilling at 2,143 feet. Rex Petroleum Co.'s No. 14 Carbello is drilling at 2,984 feet. Sinclair Oil & Gas Co. has a rig up to deepen No. 5 Gailliere. Supreme Oil Co.'s No. 2 Jackson is drilling at 4,058 feet. Tillery Oil Co.'s No. 3 Tasco is down 3,595 feet.

High Island—Galveston County

Gulf Production Co.'s No. 1 League is drilling at 2,468 feet. Marrs McLean's No. 13 Cade is in a sand at 2,815 feet and is being washed.

Damon Mound—Brazoria County

Sinclair Oil & Gas Co. is rigging up for No. 3 Norton. Brazo Oil Co.'s No. 3 Wisdom is drilling around 1,500 feet.

Moore's Field—Fort Bend County

Gulf Production Co.'s No. 15 Moore is drilling at 4,182 feet.

West Columbia—Brazoria County

Gulf Production Co. has set strainer for a test of sand at a total depth of 2,917 feet in No. 1 Tom Hogg. McNellie Oil Co. has a derrick up for No. 1 Bartlett, west of West Columbia.

South Louisiana

Jennings—Acadia Parish

Cline, Smith & Cline are building a derrick for No. 3 Lucy Wilson. Port City Oil Co. has a rig up and is spudding in No. 9 Syndicate fee simple. E. L. Meyers' No. 2 Arnandet is drilling at 1,770 feet. E. L. Simms is drilling at 2,900 feet in No. 1 Ernest Cockrell. The Texas Company's No. 3 Rayne heirs is drilling at 4,727 feet.

Edgerly—Calcasieu Parish

C. M. Crotty's No. 13 Lillard is drilling at 2,100 feet. Green Oil Co.'s No. 1 Read is drilling at 3.710 feet. Hercules Oil Co.'s No. 4 Paraffine at 2,474 feet. Rex Petroleum Co.'s No. 4 Hunter at 4,051 feet, and Wilson-Broach's No. 2 Wilson at 3,662 feet.

Lockport—Calcasieu Parish

Vacuum Oil Co. and Gulf Refining Co.'s No. 1 Calcasieu River has a sand at a total depth of 3,561 feet, and 6⅝-inch casing has been set for a test. No. 5 Lock-Moore is drilling sandy shale and shell at 3,803 feet. No. 1 Bayou D'Inde is drilling sandy shale at 3 911 feet. No. 3 Frieber & Wolf is cleaning out hole preparatory to deepening. Derricks are up for Nos. 2-A fee and 1-B fee and a derrick is being built for No. 20 Miller. No. 3 Farquahar is drilling at 3.767 feet and No. 4-A Farquahar at 791 feet.

Vinton—Calcasieu Parish

Gulf Refining Co.'s No. 45 Star-Vincent is in a sand at 3,046 feet and is being put on the pump. Marrs McLean has a derrick for No. 12 Gray and is drilling at 2,655 feet in No. 1 G.&N.G. Vinton Petroleum Co.'s No. 17 Gray is drilling at 2,746 feet.

Anse La Bute—St. Martin Parish

A. G. Broussard's No. 1 Bergeron, which started drilling during the week, is drilling around 1,100 feet.

KANSAS FIELDS

(Continued from Page 44)

Payne, SE cor. NW NW, Section 33-32-9, is dry and abandoned at 2,651 feet.

Clark County

Walker & Walner's No 1 Mitchell, SW cor. NE, Section 16-31-23w, has been abandoned at 450 feet.

Cowley County

Cameron and others made location for No. 1 Wise, SE cor. SW, Section 30-31-3. Trees Oil Co. made location for No 2 Hittle, SE cor. NE, Section 21-31-4. Manhattan Oil Co. has the rig on the ground for No. 1 King, SW cor. NW, Section 22-31-4. McCulloch Oil Co. and others made location for No. 1 King, NW cor. SW, Section 22-31-4. Elmwood Oil Co. made location for No. 1 Ehmke, NE cor. NW, Section 14-32-3.

Durham & Work's No. 1 Stout, NW cor SE, Section 19-31-3, is dry and abandoned at 2.275 feet. Roth & Faurot's No. 1 Perkins, C SE, Section 18-31-5, is dry and abandoned at 717 feet. Lewis Gas Products Co.'s No. 1 Pearce, SE cor. SW SE, Section 30-31-6, was shot with 80 quarts and made 25 bbls. from sand, 2,908-70 feet. Trees Oil Co.'s No. 1 Estus, SE cor. NW, Section 12-32-6, has been completed for 2,000,000 feet of gas in sand at 2,473-91 feet.

Elk County

Union Gas Corp.'s No. 14 Chaffine, SW cor. Section 14-31-10, is shut down at 1,500 feet. La Dow and others' No 1 Miller, NE cor. SE SW, Section 21-29-12, is dry and abandoned at 1,730 feet. Phoenix Oil Co.'s No. 4 Mills, NE cor. NW NW NW, Section 23-30-10, was completed for 35 bbls. in sand at 1,985-2,005 feet. Truby and others' No. 1 Silger, SE cor. NE SE, Section 25-30-10, made 30 bbls. from sand at 1,581-93 feet. Pennock Oil Co.'s No. 1 Faulk, NE cor. SW, Section 36-30-10, is dry and abandoned at 1,890 feet. Harvey and others' No. 1 Flack, SW cor. NW, Section 21-30-11, is a dry hole at 1,575 feet. Union Gas Corp.'s No 23 Webb, C NE NW, Section 14-31-10, is dry and abandoned at 1,992 feet.

Greenwood County

Darby Petroleum Corp. made location for No. 8 Fankhouser, NW cor. SE SW, Section 24-22-12. Simmons & Rhodes moved the rig out for No. 3 Schwab, NW cor. NE SE, Section 30-22-13. Hubbard & Marcus' No. 2 Freeman, SW cor. SE, Section 6-24-11, is drilling at 325 feet. Cross and others' No. 1 Scott, NE cor. NW, Section 18-24-12, is drilling at 200 feet. Lassen and others made location for No. 1 Gregg, SW cor. NE, Section 6-25-9.

Darby Petroleum Co.'s No. 7 Fankhouser, NE cor SW SW, Section 24-22-12, is a 200-bbl. well in sand at 1,628-79 feet. Empire Oil & Refining Co.'s No. 4 Ott "C," SW cor. NE NE, Section 26-22-12, was shot with 180 quarts in sand at 1,643-84 feet and made 150 bbls. Darby Petroleum Co.'s No. 10 Schwab, CSL NE SE NW, Section 30-22-13, had sand at 1,696-1,739 feet and made 400 bbls. after a shot of 180 quarts. Skelly Oil Co.'s No. 1 Lue, NW cor. SE NE, Section 32-22-13, is making 30 bbls. from sand at 1,796-1,829 feet. Murphy and others' No. 2 Olson, NW cor. SW SW SE, Section 6-25-9, is making 150 bbls. from sand at 2,087-2,129 feet. McCulloch Oil Co.'s No 2 Roglin, CWL SW SW, Section 10-25-13, is dry and abandoned at 1,695 feet. Stark and others' No. 1 Stanley, NE cor. Section 1-26-10, is dry and abandoned at 2,034 feet. Mohawk Oil Co.'s No. 2 Grundy, NE cor. SW NW, Section 7-27-11, is producing 150 bbls. from sand at 1,877-87 feet.

Lyon County

Empire Oil & Refining Co. is erecting the rig for No. 1 Lewis, SE cor. SW NE, Section 18-21-10.

Marion County

Phillips Petroleum Co. made location for No. 1 Sklenar, NE cor. NW SW, Section 23-17-4. Gilliland Oil Co. has the rig on the ground for No. 1 Sklenar, NW cor NE SW, Section 23-17-4. Sinclair Oil & Gas Co. made location for No. 1 Hayes, SE cor. NW, Section 26-17-4. Phillips Petroleum Co. made location for No. 1 Thompson, NW cor. SE, Section 26-17-4. White Eagle Oil & Refining Co. and others made location for No. 1 Meyer, NE cor. SW, Section 26-17-4. Davis and others made location for No. Rampel, SW cor. NW, Section 7-19-3.

Reynolds and others' No. 1 Zinn, NE cor. NW NE NE, Section 22-17-4, is a 200-bbl. well in sand at 2,392-2,435 feet. Phillips Petroleum Co.'s No 4 Peterson, SE cor. SW NW, Section 23-17-4, made 150 bbls. from sand at 2,341-2,410 feet.

Sumner County

Palmer and Barnsdall Oil Co. built the rig for No. 3-A Weinrich, NW cor. NE NW, Section 23-32-2. Roxana Petroleum Corp.'s No. 1 Barnes, NE cor. SW SW, Section 14-32-2, Oxford Pool, was completed for 390 bbls. in sand at 2,010-2,104 feet. Barnsdall Oil Co. and Palmer's No. 5 Weinrich, NE cor. NW NW NW, Section 23-32-2, had an initial production of 975 bbls. from sand at 2,032-2,125 feet. No. 7 Weinrich, CWL NW NW, Section 23-32-2, made 900 bbls. after a shot of 180 quarts in sand at 2,100-55 feet.

Woodson County

Big Indian Oil Co.'s No. 1 Gardner, SE cor. NW, Section 27-23-17, is drilling at 400 feet. La Dow and others made location for No. 1 Settlemeyer, NW cor. NE SE, Section 25-26-14. Fees and others' No. 1 Tannehill, SE cor. SW, Section 4-24-16, is dry and abandoned at 1,505 feet. Southern Kansas Gas Co.'s No. 1 Morgan, SW cor. Section 8-24-17, is dry and abandoned at 1,480 feet.

MUSKEGON PRODUCTION HOLDING UP; FOUR TESTS NEARING COMPLETION

By Special Correspondent

MUSKEGON, Mich., Apr. 28. — Production is holding up remarkably well in the Muskegon Field, of Muskegon County, Michigan, although but few wells are producing, the oldest being the Muskegon Oil Corp.'s No. 1 on the Reeths farm, Section 9, which when drilled in showed an initial of 340 bbls., and now reported doing 20 bbls. Same company's No. 1 on the Figge farm is holding at 90 bbls. and No. 1 on the Herman Hinz farm, 50 bbls. Joliet-Morris Development Co.'s No. 1 Nichols farm is holding at 185 bbls., while No. 1 on the Herman Hartman farm is credited with 145 bbls.; Dixie Oil Co.'s No. A-1 Figge farm, 110 bbls.; Johnson Oil & Refining Co.'s No. 1 Harley J. Smith farm, 20 bbls., and the J. B. Reed Oil Co.'s No. 1 George H. Shoup farm, 10 bbls. This makes a daily production of 630 bbls., which is said to be shipped by tank cars to the Standard Oil Co of Indiana refinery at Saginaw.

Dixie Oil Co. is starting No. 1 on the Albert Becker 40 acres in the SW SW Section 4, and the Lake Shore Oil Co.'s No. 1 on the Joseph DeVries 6½ acres in the SE NE Section 8, and southeast of the good well on the Nichols farm.

Citizens Petroleum Co. is reported to have given up hopes of production in its No. 1 on the Becker Brothers farm, in the NE SW Section 4, and it goes in the list of dusters of which there are few in the new field.

Two Edge Wells

Indications in the Muskegon Field as the month of April closed were that two edge wells with but a small daily production and two good producers in the heart of the field would be added to the record of the past four months of development north of the Muskegon River.

The top of the pay sands of the Traverse formation was encountered at 1,660 feet in the Dixie Oil Co.'s No. 1 Figge-B well in the NW NE Section 8. After the well had been drilled to 1,682 feet it came in and flowed 30 bbls. in the first 12 hours.

As there was but little gas pressure, however, in spite of the fact that the well is an offset to the Joliet-Morris Development Co. Nichols, the largest producer in the field, the Dixie well is to be shot. In the meantime it has been swabbed and cleaned.

The top of the gas rock was encountered Friday, April 27, in the Muskegon Oil Corp.'s No 1 A. Hinz, NE NE Section 8, at 1,647 feet. The well was to be cased and drilled in immediately with every indication that it will become a valuable producer. The flow of gas was estimated at 500,000 feet per day.

On the same day, drillers took a core in the Bulldog Oil & Gas Co.'s No. 2 Giles, SE SE Section 6, and found a show of oil. The well was to be bailed free of the mud with which the hole is filled during operations with the rotary rig and will be shot if the show is found to be enough to warrant it. It is not anticipated that the well will be more than an edge well, however, as it is about a quarter of a mile northeast of the J. B. Reed No. 1 Shoup well, which was made a 10-bbl. pumper with difficulty.

Show in Berea

The Muskegon Oil Corp.'s No. 1 Torrent, SW SE Section 8, struck a show of oil both in the Berea and at 1,718 feet. The well was allowed to stand for two days and was being bailed today to determine if it will warrant a shot. There is but little gas pressure and only a small show of oil which leads the operators to believe it will develop into no more than another edge pumper. It is located about three-eighths of a mile northeast of the Reed Oil Co's No. 1 Torrent, NE NW Section 8, which filled with water after a show of oil at 1,676 feet. The latter has not been touched all week.

Other operations in the field have been confined to cleaning out several wells, removing casing in two of the producers preparatory to completion, rigging up upon a number of new locations, spudding in of two new wells and moving to location on others.

A leak between the 8 and 6-inch casing in the Muskegon Oil Corp.'s No. 1 H. Hinz, NE NE Section 8, compelled removal of the casing and replacement with a new packer. Two-inch tubing also will be placed in the well before it is completed in an effort to keep it flowing at the rate of about 50 bbls., its initial production following a 160-quart shot about 10 days ago.

Cleaning Out

Removal of the casing and cleaning of the Muskegon Oil Corp.'s No. 1 Reeths discovery well, was necessitated this week as it was completely clogged with paraffin and had stopped flowing. This work is now in progress and is being done with the rig used to drill the Muskegon Development Co.'s No. 1 Hartman well below the hill in NE NW Section 9.

A. S. Cochran is still cleaning his No. 1 Taggart, SE SE Section 5, which has enough gas and oil at about 1,700 feet to make a 25-bbl. producer when completed.

The Joliet-Morris Development Co.'s No. 1 Kooi well, SW NE Section 8, has been spudded in and is drilling today at about 500 feet. V. M. Voorhees also has spudded in and is drilling on the Wolverine Development Co.'s No. 1 Workman, SW NE Section 8. Alongside this well and also on the celery beds which line the base of the bluffs overlooking the Muskegon River Valley from the north three other rigs are being built. They will be: Citizens Petroleum Co.'s No. 1 A. Hinz, NW SE Section 8; Lake Shore Petroleum Co.'s No. 1 DeVries, SW NE Section 8, and William Bradley's No. 1 Layman, SW NE Section 8.

Edward Stewart, contractor, has spudded in for the Dixie Oil Co.'s No. 1 Becker Brothers, SE SW Section 4, and is now drilling at about 200 feet. Hagan and Hagan, contractors, are building rig for the Wa-je-sel Oil Co.'s No. 1 Reeths, just back of the school house, SW SW Section 5, and a short distance west of the new Dixie well.

Negotiations on Gas

Negotiations for the use of the natural gas pouring from the producers and capped within the two big gassers have progressed no further during the week with the exception that officials of the Muskegon Traction & Lighting Co., a subsidiary of the American Traction & Lighting Co., of New York, approached officials of the city of Muskegon with regard to use of the gas.

D. A. Powell, vice president and general manager, held a conference with the members of the city commission at which the matter was discussed. It is planned to use about 500,000 feet of the gas per day and mix it with a like amount of manufactured gas at the local plant. The initial flow of the Lima Oil Corp.'s No. 1 Margaret Figge well, SE NW Section 9, was 5,000,000 feet per day. Further drilling last week after the first gas had been

(Continued on Page 168)

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Chicago Market Firm; Business Gains

Numerous Inquiries for Gasoline Over May Which Have Not Been Supplied. Demand Better

By J. B. Waldo

CHICAGO, April 30. — Although today was the last of the month and many dealers were holding back their orders until the new month, the spot gasoline demand was better than a week ago and the market was very firm and quite active. Many of the orders were for rush shipment or for cars in transit that could be diverted to give very early delivery at the stations of the buyers. There were a considerable number of these, indicating that the present stocks of the dealers who had placed the orders were low. Station reports of the business done over the week-end were of a fairly large consumption, but did not indicate that the motorist had yet begun to use the cars to the full extent. Weather and road conditions were reported as much improved from many parts of the territory, including the Northwest. With little exception, the U. S. Motor gasoline was held at 7 cents, only two refiners still selling at 6¾ cents and one of these expects to advance to that price and possibly a higher one on May 1.

There was little distress gasoline in evidence in the market Monday, and the demand for cars in transit should take care of any remainder on April contracts very quickly. There is some demand for the 400 endpoint, but little in the spot market for the 375 endpoint, and in nearly all of the refinery list of prices these two grades are quoted at very narrow margins.

The kerosene demand was not active on Monday, but prices were firmly held and refiners as a rule were selling to regular customers only. There was some inquiry for kerosene by refiners for their own requirements.

Export Inquiries

Exporters reported that there were several inquiries in the market for gasoline, but so far as known no new orders were placed through the local offices, as they are in no position to take additional business. Gas oil was very firmly held, the usual price named for the straightrun product being 2⅝ cents. Heavy fuel oil was easy and the demand light. Many of the leading users have supplied their needs for the first part of May, while the buyers of occasional quantities as needed are holding back until after the end of April even if their needs are quite urgent.

A firm gasoline market and gradually increasing business is expected for the week, as there are numerous inquiries for gasoline over May which have not been supplied, although the business as a whole last week was quite large and some of the important distributors bought material quantities for early May shipment.

Strong Despite Cold

The gasoline market last week lost none of its strength although business was restricted by the cold weather.

One of the factors that is observable is the increased consumption of gasoline per car.

Although the gasoline spot business over last week was just about seasonable if that, the takings on contract were very satisfactory many of the refiners reporting that their contract customers were taking 100 per cent of their contract amounts with a few exceptions in the Northwest where the continued snowfall has restricted the use of the auto. Reports of companies operating even in southern Wisconsin show much smaller increases in sales for April over last year as compared with the other parts of the territory and the gallonage in the more northerly parts of Michigan and Wisconsin has been light. As late as Wednesday of last week there was a heavy snowstorm in Madison, Wis., and other parts of the State from that latitude northward. The continued export demand has taken considerable quantities of U. S. Motor gasoline out of the market. Distributors and marketers who had bought for April delivery were able to pass some of the excess purchases along to exporting companies who were in the market here looking for lots of U. S. Motor gasoline to complete their requirements. Train loads were sold in a couple of instances and this gasoline which would otherwise have been offered and probably pressed for sale to buyers in this market was disposed of to exporters at a small profit. This in itself was quite a relief for it is frequently a week or 10 days after the close of the month before the tail end of the last month's purchases are disposed of and the market is free from the depression caused by the offering of a limited quantity of gasoline at a price below the market for immediate acceptance.

Showing Good Gains

The major companies which operate over all or a large part of the territory served from Chicago report very substantial gains this year to date including the first half of April and some of the smaller but still large distributors with stations extending through the central parts of the territory are having larger sales than a year ago although their business does not show quite the same percentage of increase as where the concern has a larger percentage of its business in the southern parts and less in the northern parts of the district. When the better weather comes and the distributors in the northerly half of the territory are no longer hampered by cold, wet weather and bad roads there is no reason to expect that their business will not show the same gain as the rest of the country.

One thing that is being considered here by the trade is the reported fact that the demand for gasoline is so good along the Eastern Seaboard that the major distributors are buying and expect to continue to purchase for their own needs. The vice president in charge of sales of a major distributor passed through the city last week and said that his organization would be in the market for considerable quantities of gasoline for its own stations. It is further stated that some of the purchases reported as for export are really intended for the North Atlantic Seaboard and a little later might be found in the storage of some of the major companies in that section. The steady advance of the export price of gasoline in bulk is another indication that Eastern wants are expected to be large in comparison with the supply. Possibly the quality of the crude which is being run so extensively in these Seaboard and Gulf refineries may have something to do with the demand for gasoline from these parts of the country. All in all it looks at this time like a good season for Mid-Continent gasoline.

Prices Advance Slowly

The price situation was marked by a slow advance during the week. Several refiners advanced their price for U. S. Motor grade to 7 cents and at the close of the week there were at least two that were quoting a price above 7 cents for this gravity, one of them holding for 7½ cents and the other at 7⅛ cents. Quite a few were asking 6⅞ cents and only one was openly quoting 6¾ cents to its trade. The local office had been expecting instructions to advance its prices at any moment. There were also wide differences in prices of the higher gravities the 64-66 375 endpoint being quoted by different companies at a range of 7⅜ to 7¾ cents. The weather at the close of the week was bright and clear but too cool for night driving. The cold dry air has dried up the near-by roads a great deal and with a clear week-end a large consumption was assured. This coming so near the end of the month would bring a lot of business for the opening of May. A large demand would bring prices more closely in line than they were last week. So long as a really leading refiner is selling at even an eighth of a cent under the price quoted by others there will be some refiners who will meet the competition rather than lose the business and possibly a regular customer.

All the local offices agree that the great bulk of the demand in regular grades is for the U. S. Motor gasoline and that the percentage of the sales is made up of the higher tests is less than it is usual at this time. Many of the dealers are changing their purchases even on contracts back to the U. S. Motor grade or reducing the number of cars of the higher tests and making up the total by increasing the number of cars of the Motor gasoline. Many stations are also restricting their lines to two grades one of these being the usual grade and the other one of the special antiknock gasolines. This tends to reduce the sale of higher tests with these dealers but there has been a decided increase in the number of stations where the higher tests are pushed for sale in competition with the U. S. Motor grade. Some of the refiners are now running only the U. S. Motor gasoline and a special for their own use and for sale to dealers and if they must have a few cars of the high tests they purchase them. While there is a growing number of motorists who want and will pay for a better motor fuel the vast majority still buy the regular grade for which no premium is charged. One of the major companies which has advertised and pushed in all ways a special blend of motor fuel is reported to be selling about 15 per cent of this grade out of its total sales. Another fairly large refiner with distribution offers but two grades U. S. Motor and its own antiknock gasoline and reports that it is selling about equal quantities of each. Sometimes the early sales of these special makes do not hold. When first introduced to the motorists and extensively advertised locally the sale will sometimes run up to 60 per cent of the total but the percentage does not hold and drops back again unless the product is advertised and pushed steadily as the higher price offers a form of sales resistance that has to be steadily combated.

Natural Gasoline Steady

The natural gasoline market closed quiet but steady. According to the beliefs of some of the local refiners that product has reached a price altitude where it will have to wait for the regular gasoline prices to further advance as they claim that no refiner can use natural gasoline when the price is more than 1 cent less than the regular grade. Some say that the difference must be 1½ cents for the refiner to use the natural gasoline profitably. The situation to the east of this city has not shown so decided a change as was hoped for. Better prices for gasoline are being paid in Ohio, for example, than recently but they are still somewhat below the parity of Group 3. Refiner representatives who have been here describe the situation as still "hectic," due to the fact that that State is a regular dumping ground for refiners from three directions as well as having its own considerable refining output to absorb.

Kerosene Unchanged

Kerosene did not change in price during the past week. No refiner reduced the price and some advanced a little but the range of prices at which active business was done was still 5 to 5⅛ cents with more sales probably at the higher price as there were more sellers holding for it. The local trade is waiting to see what will happen in May. Usually there is a decided falling off in the demand during the first half of the month. Sometimes it comes very closely to the first and at others it runs well into the month before the business drops to its regular level. This year owing to field conditions in some parts of the territory, it is believed that there will be a considerable demand from dealers later than usual. It is during the latter part of spring work on the farms that the best demand comes from farmers for kerosene. When the weather is still cold they prefer gasoline but later they change to kerosene for the added power that it gives them. Several jobbers from towns in this State and other near-by points were in the market last week and said that with them the best demand was just beginning and added that they did not expect to be obliged to buy more as they had good stocks. There has been some buying by refiners and reports are made that considerable quantities will be taken for export as soon as the domestic demand begins to fade away.

The furnace fuel business was light and will be lighter after the first of May as the present demand is for small amounts to tie over until the warm weather comes. Prices for distillate and zero gas oils with low flash and suitable for furnace use were unchanged.

Gas Oil Firm

Gas oil continues to be firmly held and prices are if anything higher rather than lower on the straightrun product. The gas companies have bought considerable of the low gravities in gas oil as well as some of the regular 32-36 product. There has been considerable buying from all sides, usually in moderate to small quantities but the total is considerable. Offerings are light, one of the largest sources of supply reporting no more gas oil available from any of its three refineries at the present. If there was any gas oil to be purchased at less than 2⅝ cents for the straightrun grade it was only occasionally last week and the supply was light. The supply is just now very closely held and refiners who have stocks are either holding them for their own use later as cracking stock or are under contract. One large refiner stated that they would not have a drop to sell for 30 days if then as both their own needs and their contracts with gas companies and other refiners called for all they were able to run. It is stated in this connection that the crudes of the West Texas variety produce little or no gas oil, a condition that is not so evident from published reports where the gas and fuel oils are commonly reported as one item.

Fuel Oil

In the fuel oil division last week there was a feeling of great uncertainty. Prices were easier on the heavy fuel oils, but just how much easier was hard to determine. Consumers could buy 24-26 fuel oil ordinary cold test at 80 cents and 18-22 at 75 cents. These prices were quoted by several refiners for these gravities of good Mid-Continent fuel oil. Some consumers bought for May at less than these quotations. Many bids at these prices made in response to inquiries were turned down by the purchasing

(Continued on Page 168)

East Coast Market Continues Strong

Refinery Price on U. S. Motor Again Advanced. California Gasoline Now Bringing 10 Cents With Heavy Movement to Eastern Buyers

By Special Correspondent

NEW YORK, Apr. 30.—East Coast gasoline markets moved closer to the predicted 10-cent level the past week, prices being advanced a quarter cent to 9¾ cents a gallon for U. S. Motor at principal refinery points, with California motor gasoline already at 10 cents. Business has been heavy, and marketers have been compelled to turn down some future business, owing to the uncertainty as to just haw far the gasoline advance will carry the market. Some contracts have been written for May delivery at 10 cents a gallon, but in the minds of many in the trade it is a question as to whether the advance will stop after the 10-cent level has been reached. Mid-Continent refinery prices are higher this week, and California gasoline is also on the upward move.

London cables this week report an advance of 4½d in the price of motor fuel, following the imposition of an import duty of 4d per gallon, contained in the Churchill budget. The extra farthing represents additional overhead of the importers. The advance applies to all British markets excepting the Irish Free State, Isle of Man, and the Channel Islands.

Lubricating oils are higher this week, and volume of business is larger. Waxes are also stronger and higher. Kerosene remains firm. Fuel and gas oil prices are steady, with no particular change in the market situation.

California Receipts

Receipts of California gasoline at eastern ports have shown a material increase thus far in the year, the aggregate movement since January 1 being close to 800,000 bbls. over that for the corresponding period last year. A comparison of weekly receipts of California gasoline thus far in 1928 and those for comparable weeks last year follows:

	1928 Bbls.	1927 Bbls.
January 7	75,000	150,000
January 14	174,000	145,000
January 21	196,000	170,000
January 28	231,000	80,000
February 4	110,000	403,000
February 11	336,000	157,000
February 18	287,000	158,000
February 25	220,000	70,000
March 3	228,000	396,000
March 10	263,000	214,000
March 17	158,000	78,000
March 24	158,000	360,000
March 31	80,000	.....
April 7	465,000	152,000
April 14	153,000	74,000
April 21	532,000	262,000
Totals to date	3,666,000	2,869,000

California gasoline is no longer regarded as a menace to the East Coast markets, however. The movement is now under much better control, and there no longer exists any reason for California refiners to unload large surplus holdings at low prices in eastern markets. Instead of being a demoralizing factor, as formerly, California gasoline is now commanding a quarter cent premium in some eastern markets, and has come into wide popularity as an antiknock gasoline.

The improved position of the market in California is indicated by the monthly summary showing total stocks of gasoline held by refiners in that State on March 31, last, at 13,799,947 bbls., an increase of 532,180 bbls. for the month, but still considerably smaller than the 14,571,992 bbls. held on the Pacific Coast on March 31, last year. In addition stocks of refinable crude held by California refiners were smaller, totaling 20,215,802 bbls. March 31, last, against aggregate holdings of 29,500,917 bbls. on the same date last year. With crude production well under control in California, a continuance of this favorable trend with regard to stocks is anticipated.

Still another favorable factor this year is seen in the fact that eastern ownership in California companies is expected to make for a well ordered eastern movement of California gasoline. Eastern distributors have contracted for large quantities of California gasoline for delivery over the summer months, it is reported, but this fuel has been bought on a price basis that will not permit of any undercelling of eastern gasoline unless it becomes necessary to sacrifice all gasoline in the event of a disastrous season from the standpoint of weather conditions. Much of the California gasoline coming eastward is being used in the manufacture of ethyl gasoline and other special blends.

The market at New York this week was advanced a quarter cent to 10 cents a gallon, representing an increase of three-quarters cent a gallon within a two weeks' period. Prices are expected to go higher, and consequently marketers are not booking far ahead, although there has been a good demand from jobbers for coverage on later positions.

Motor Gasoline Higher

Gasoline prices scored what has become almost a weekly quarter cent advance during the week, being marked up to 9¾ cents a gallon. The latest advance started on April 24, when the Acewood Petroleum Co. and the Walburn Petroleum Co. announced an advance of a quarter cent on California motor gasoline, taking the market for that fuel to 10 cents a gallon, a half cent over the market of other motor gasoline at that time.

Within a few hours of the advance on California gasoline, Standard Oil Co. of New Jersey announced a quarter cent markup on U. S. Motor gasoline, to become effective April 25, making their market 9¾ cents a gallon at New York, Baltimore and Norfolk, and 9½ cents a gallon at Norfolk. Other refiners met this advance, Sinclair naming a price of 9¾ cents a gallon at its terminals at New York, Philadelphia and Portsmouth; 8¾ cents a gallon at New Orleans and Houston; 10 cents at Tiverton, R. I.; 9½ cents at Charleston, and 9¼ cents at Tampa and Jacksonville.

While weather conditions this week have not been all that the trade could ask for, they have been much better than was the case toward the middle of the month, and a heavy increase in gasoline consumption has been witnessed. Refiners are of the opinion that the current heavy demand does not represent actual consumption, in many instances, as jobbers are filling their bulk storage as much as possible in anticipation of further advances in price in the near future. However, demand is running at such a rate that the jobbers have little opportunity to accumulate surplus stocks, in as much as their gasoline is moving into consuming channels at an unusually rapid rate for this season of the year.

Publication of the Bureau of Mines monthly summary for February last week was a bullish factor in the market. This summary showed that refinery holdings of gasoline at the close of February amounted to 38,782,000 bbls., as compared with holdings of 49,714,000 bbls. at the close of February last year. Stocks held at the end of February this year represented but 46 days' supply at the then current rate of consumption, as compared with holdings representing 64 days' supply at the end of February, 1927, based upon consumption figures at that time.

Tank Wagon Advance

There is still much talk of an advance in tank wagon prices in the New York territory, but apparently none of the larger refiners wishes to take the initiative in the increase. Service station operators declare that they are being informed by refiners' salesmen that an advance is pending, but nothing definite in this connection has been forthcoming as yet. It is believed that eastern refiners are waiting for marketers in some other sections of the country to initiate the spring markup, although it is possible that the continued advance in jobbing prices may force the hands of the New York marketers.

Price cutting at the stations of the independent distributors is not as frequent or excessive as has been the case during recent months. About the cheapest gasoline at retail at stations in New York City now is 15 cents a gallon, whereas a month ago retail gasoline could be bought at 12 cents. The Municipal Service Corp., which now has more than 50 stations in its New York chain, has been making a practice of running a week's sale with the opening of each new station, during which period motor gasoline has been retailed at 10 cents a gallon.

Stations retailing the better known brands of motor gasoline are now quoting 9 cents a gallon in most instances, with 20 cents posted at some stations. Until a few weeks ago, these brands were posted at retail all the way from 16 to 19 cents. With the refiners withdrawing many of the concessions formerly offered filling station operators, they are impressing upon the latter the necessity of maintaining suggested resale prices if they are to make a satisfactory margin on their sales.

Kerosene

Domestic consumption has continued at a heavy rate, and the markets remain in strong position. Jobbers have been buying freely during recent weeks, and refiners' price views are stronger. Most of the current buying is for immediate delivery, with buyers in many cases asking that their shipments be rushed.

Refiners are not always in position to take care of orders of this type, the market being closely sold up. Thus far, the market at New York has not reflected the advances at Group 3 and Pennsylvania refineries. Local refiners have maintained water white at 7½ cents a gallon at nearby refineries for several weeks past, during which time export prices have been advancing, and quotations at competing refinery centers have also been marked up. This situation has continued for so long that many operators do not believe that the market here will see any price change for the balance of the spring selling season, although it is conceded that any sudden spurt in buying might cause refiners to revise their prices upward. One cause for the present paucity of stocks is seen in the curtailed production of kerosene. Refiners cannot see much of a market for this oil beyond the next two weeks, and are consequently producing only to take care of their expected demands, not wanting to carry any more kerosene over into the summer season than they have to.

Fuel Oil

Fuel oil demand is well maintained, and the market remains steady at $1.35 a barrel at refineries. There is a fairly heavy production of this oil at East Coast refineries, owing to the heavy quantities of West Texas crude being run, but refiners have evidently succeeded in striking a satisfactory balance between supply and demand. The present quotation has been in effect for several months and it is reported that the leading sellers are all adhering to this figure in their current transactions.

"Outside" supplies of fuel oil continue small, no large shipments not already contracted for having reached the New York market for some time past. The present price basis, which is about 40 cents a barrel under the quotation in effect at this time last year, does not permit of the movement of California fuel oil eastward at a profit, and likewise shuts off shipments from other sources.

Refiners report heavy contract withdrawals on the part of steamship operators, and the outlook is for increasing consumption from this quarter during the summer months. Many of the excursion and passenger steamer lines operating out of New York during the summer season are now oil burners, and the starting up of operations by these crafts means a nice increase in the volume of bunker oil business here.

There have been no developments in Diesel oil situation worthy of special comment. East Coast refiners quote this fuel at $2 a barrel, at refineries, and consumption holds down to fairly stable levels.

Gas Oil

With daylight saving in effect in East Coast territory April 29, refiners anticipate some letting down in demand for gas oil from the big gas companies. It is not expected that this will have much effect upon the aggregate consumption, however, in as much as gas is not used for illuminating purposes to any great extent in this territory. The market has continued firm at 5¼ cents a gallon at Bayonne refineries.

There is little surplus gas oil offering at East Coast refinery terminals. In fact, refiners in most cases are content to fill their contract requirements, and hold whatever surplus supplies they may have for their own needs later on. This applies particularly to the better grades, refiners holding their oil to use as cracking stock. With the market for motor gasoline higher and showing every indication of continuing its advance, refiners believe that straightrun gas oil at present going prices is good property, and are reluctant to book spot business to any extent.

Thus far, it is problematical as to how extensive cracking operations will be at East Coast refineries this summer, but if the gasoline market holds at present levels or goes higher, as seems likely, it is probable that cracking of gas oils will be done extensively.

Lubricating Oil

Sales have picked up considerably this week, and the movement of oil from refineries is heavy. One leading factor in paraffin oils reported that tank car shipments from its refineries on April 23 were the largest for any single day for the past three years or more. Prices for pale and red oils have been showing more firmness and while changes are lacking, some talk is being heard in the trade regarding the likelihood of a fractional markup within the next week or so.

Better buying of bright stocks has developed this week, and the market is in better shape than has been the case for three or four months. Spot light 135 bright stock is 1 cent higher at 37 cents a gallon, with dark a half cent firmer at 34½ cents a gallon. Pennsylvania refiners are higher in their price views and there has been a close cleanup of the low priced lubs which had been on the market for the past week or so.

Improved weather conditions have

(Continued on Page 153)

Fire Tubes Reduce Plant Fuel Costs

Equipment Salvaged From Old Cracking Unit Adds to Efficiency of Rebuilt Crude Oil Battery at Kansas Refinery

By C. O. Willson

NEODESHA, Kans., Apr. 28. — The Standard Oil Co. of Kansas has had in operation for several months an up-to-date crude oil battery which was largely rebuilt with the aid of equipment and materials salvaged from other parts of the plant. As now operated, the plant incorporates several features in construction and operation which will be of special interest to plant operators who are constantly confronted with the problem of modernizing their plants.

As is generally known, the Standard of Kansas local refinery is the oldest plant now operating in the Mid-Continent Field. The first two stills—now a part of the No. 1 battery—were installed in 1897. During the past 30 years numerous changes have been made in various phases of the plant operation in order to keep pace with the steady improvement in refining methods.

The crude oil battery with which this description is concerned is known at the refinery as Batteries No. 2 and 3. Formerly the two batteries were separate in their operation. They can still be operated in that manner if necessary. When originally installed they were operated on the batch system. Later they were hooked up for continuous operation. During the past year it was found expedient to combine the two batteries and design a complete unit to include special distillation, fractionation and heat exchange equipment.

In the distillation end, the first six shell stills of the battery (Nos. 15, 16, 17, 18, 19 and 20 in the accompanying flow diagram) are equipped with fire tubes. This particular feature of the rebuilt battery has reduced fuel costs substantially and has also added to the capacity.

Fire Tube Stills

These shell stills are each 14 by 45 feet with a capacity of 1,000 bbls. In installing the fire tubes no changes were necessary in the still settings or main furnace design. The 4-inch tubes were salvaged from a battery of Burton cracking stills. The Standard of Kansas was one of the largest users of Burton cracking equipment and has a large number of units in operation at this time. Some of the older type have been dismantled. Much of the equipment in these old units was in excellent condition and in rebuilding the crude oil battery has served a useful purpose.

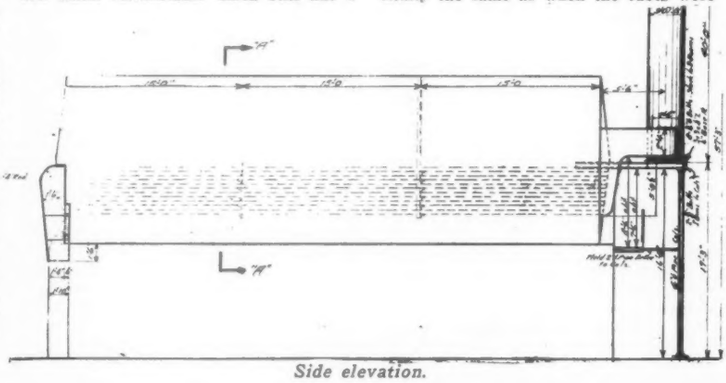
To serve as fire tubes in the shell stills it was necessary to weld three lengths to obtain one tube length suitable for use in the shell stills. In this connection it is well to note that had it not been for the art of welding it would have been impossible to build the numerous pieces of equipment which are a part of the present operation. It has made possible the adaptation of old equipment to new uses with a minimum of labor expenditure.

The accompanying views of rear, front and side elevations of one of the stills with the tubes illustrate the method of installation. Each still has 66 of the tubes arranged in two banks. The original heads of the stills were used. The holes in the heads were cut out by a cutting torch. The tubes were rolled in the heads in much the same manner as a fire tube boiler and then welded to the heads inside and out. The tubes are confined to the lower half of the stills below the customary liquid level. Due to the great length of the stills, the tubes are supported at two points by steel framework built inside the stills.

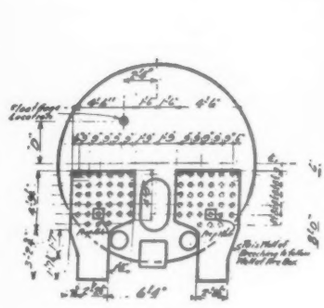
At both ends of the stills, steel breeching covers the ends of the tubes. The still manhole is between the two breechings. In operation the flue gases in the furnace pass along the bottom of the still to the rear and are then returned to the front of the still through the tubes. In order to vent the gases at this point it was necessary to disconnect the No. 2 battery from the main smokestack. Arrangement was made to combine the spent gases from two stills in one small smokestack. Each still has a separate damper control.

Based on operations to date, the installation of the tubes has given very satisfactory results. Due to the fact that the last six stills of the battery do not have the fire tubes, exact figures are not available as to the savings in fuel costs. Other improvements in the crude oil battery also have aided in lowering the fuel costs.

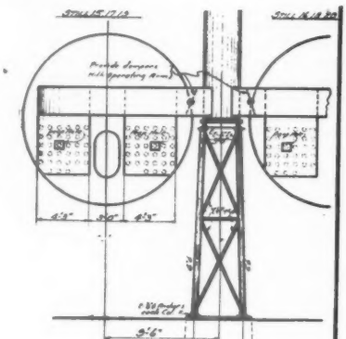
The tubes have not complicated the operating problem and the maintenance item to date has been practically nil. The tubes can be easily cleaned when necessary. The banks of tubes are so arranged in the stills that they do not add to the difficulty of cleaning. In brief, the battery with the fire tubes is operated practically the same as when the tubes were not installed. It is estimated that the savings in fuel have already paid for the cost of installation.



Side elevation.



Rear elevation.



Front elevation.

Views of fire tube installations in shell stills at Neodesha, Kans., refinery of the Standard Oil Co. of Kansas.

Crude Oil Battery

Attention is now called to the flow chart showing the operation of the entire crude oil battery. In rebuilding this battery use was made of equipment which in many cases already had seen years of service in some other part of the refinery. By making minor changes in this equipment, the management has been able to obtain operating results comparable with the newer type equipment.

The crude oil from storage first passes through the coils of a hot water exchanger. The water coming from the condenser boxes preheats the crude oil which then passes to a drum of a second exchanger which is further preheated by the hot fuel oil residuum coming from the last still (No. 26) of the battery. The shells of both the hot water and fuel oil heat exchangers were originally Burton cracking stills. Sufficient pipe coil was installed in both shells to secure the desired heat exchange.

The preheated crude from the last heat exchanger then passes to a 6-inch line. A constant pump pressure of 65 pounds is maintained on the tar heat exchanger and on this line at all times. Thus one pump only is required for charging the unit. As shown in the flow chart, lines lead from this header to a flash drum (first drum on the left) and five towers of similar design. These towers are connected to the first five shell stills of the battery.

The flash drum and the five towers are of the bubble type with knockout controls at the top. The shell of these towers, are 8 by 30 feet. The towers are of the Hopkins tower type which was developed for a more efficient operation of the Burton cracking still.

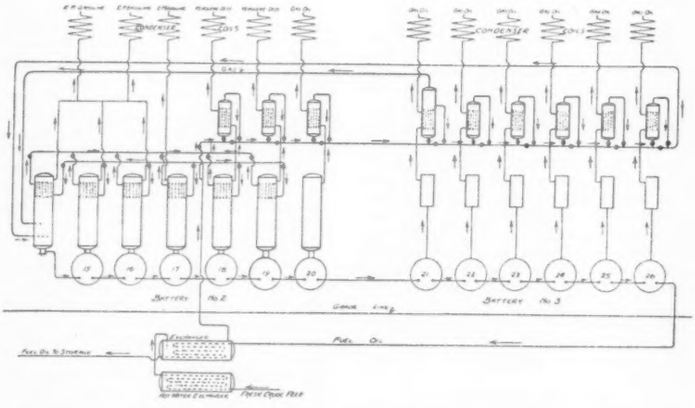
This tower provides for the circulation of the incoming charge through a tube compartment in the dephlegmator. This serves the double purpose of preheating the charge and giving a more accurate control of the overhead product. This type of dephlegmator or tower replaced the old air-cooled type.

For the crude oil battery service several bubble trays were installed in each tower. The knockout control in the top of the towers follows the same general design as was used in the original Hopkins towers. From the 6-inch header sufficient oil is circulated through each coil to give the desired control of the overhead products from the stills. This arrangement has been found to give a simple method of control over the finished products extending from the light gravity gasolines to the kerosene distillate.

Vapor Heat Exchangers

The crude oil from the knockout controls or exchangers of the flash drum and the first five towers pass to a second header. A by-pass arrangement from the first to the second header also enables the excess oil not needed for the knockout controls to pass to the second header. This second header as shown in the flow chart is connected to series of nine vapor heat exchangers. This is one of the most interesting features of the entire installation and an important factor in its efficient operation.

These vapor heat exchangers were formerly the Hopkins towers just described as being used in the Burton cracking operation. The original towers were 5 by 30 feet with Hopkins tube exchangers in top of 5 by 10 feet. For use in the crude oil battery as vapor heat exchangers they were cut down to 5 by 12 feet utilizing the exchanger part of the towers. Starting with the fourth still of the battery (No. 18 in the flow chart), the overhead vapors from the tower pass to the first vapor heat exchanger. In the exchanger the crude oil charge passes up through the tubes of the exchanger and out at the top, returning to the main feed line. The vapors surrounding the tubes are cooled, and the condensed portion passes to the condenser coils in normal operation. Provision is made for returning this condensate to



Flow chart of crude oil battery at Neodesha, Kans., refinery of the Standard Oil Co. of Kansas.

the stills on stills 18, 19 and 20, should this prove desirable for special cuts. The remaining vapors pass to the condenser coils where they are finally condensed.

This same procedure is followed in series through the remaining eight vapor heat exchangers. By this method of operation the incoming crude oil charge is gradually preheated. The temperature of the charge as it strikes the first vapor heat exchanger is about 225 degrees Fahrenheit. Passing through the nine vapor heat exchangers serves to further preheat the charge to about 325 degrees Fahrenheit. In addition to preheating the crude oil charge to a high temperature, this method of operation obviously reduces the amount of water condensing necessary.

At the fourth vapor heat exchanger it was found necessary to provide for a gas trap. The crude oil is preheated sufficiently at this point so that considerable vapor is formed. This tends to form gas pockets which retards the continuous flow of the liquid through the exchangers To take care of this condition a 5-foot section was added to the exchanger. This provides space for the gases to collect. Through an automatic float control the gases are automatically trapped from the vapor heat exchanger. The gases are returned to the flash drum.

No complicated control instruments are used in connection with the vapor heat exchangers. Provision is made to determine the temperature of the oil as it leaves each exchanger. Through thermometers it is also possible to determine the temperatures in the vapor lines. After the first adjustments were made at the time the battery started operating, it rarely has been necessary to make any changes in the manual controls.

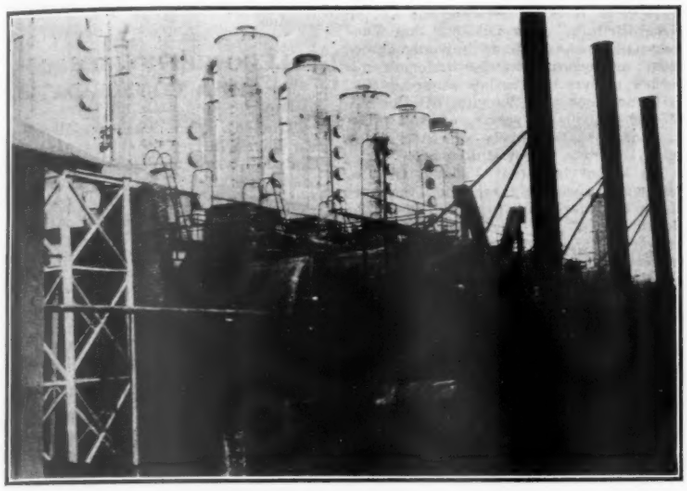
Flash Drum

The crude oil from the last vapor heat exchanger discharges into the flash drum. Having been preheated to a temperature of 325 to 350 degrees Fahrenheit, the lighter ends of the crude oil vaporize in the flash drum and pass to the condensers. The crude oil minus the light ends passes out of the flash drum to the first shell still of the crude oil battery. The oil in the usual manner then passes continuously to the remaining stills of the battery.

In the present method of operation approximately 88 per cent of the crude oil charge is taken overhead. The battery has a rated capacity of 12,000 bbls. daily. The cuts from the first three stills and the flash drum are gasoline. In the case of the flash drum and the first two shell stills the vapor lines are so connected that the vapors are blended and only one stream taken from the condensers. The Standard management believes that better results are obtained by blending the vapors rather than blending the gasolines in tanks after the refining operation is completed.

Approximately 50 per cent of the crude charge is reduced to gas oil. This is the charging stock for cracking units. In addition to its Burton cracking units, the Standard company during the past year completed the installation of a large Holmes-Manley unit. For the stills from which the gas oil cuts are obtained no special towers are provided, the vapors passing through a hollow shell and then direct to the vapor heat exchangers.

In order to assure continuous operation, by-pass connections are provided for all the stills and also the vapor heat exchangers. If necessary to take one or more of the vapor heat exchangers out of service, this can be done closing the necessary valves cutting off the units from the main operation. When necessary to clean out a still, the unit is bypassed so that the continuous operation is not interfered with in any way.



Crude oil battery at Standard Oil Co. of Kansas refinery after five tubes had been installed in shell stills.

EAST COAST MARKET CONTINUES STRONG

(Continued from Page 151)

made for a continued heavy movement in automobile lubs and refiners continue to push this line, reports from sales departments indicating that business with the filling stations is running ahead of last year's figures.

Business in industrial lubs has continued unfavorable. The strike of mill operatives in New Bedford has made for a falling off in sales of textile lubs, business in that line having been dull for some months past.

Paraffin Wax

Following an advance in prices on crude scale by refiners, the market for refined grades has strengthened further and prices are quoted higher on all grades. On 120-122 a.m.p. for prompt shipment, the market is now 3⅞ cents per pound, with 4 cents asked by some sellers. The market on 125-127 a.m.p. has advanced to 4¼ cents a pound, with 4⅜ cents asked in some instances. Spot stocks of 130-132 a.m.p. are not large, and the market is higher at 4⅝ cents, with 135-137 a.m.p. nominally quoted at 6¼ cents a pound, with very little obtainable.

Europe has been in the market for refined wax in a better way during the week, but jobbers are finding it difficult to quote on foreign inquiries owing to the stiffer domestic markets. Many refiners are practically withdrawn from the market at present, and with present strong conditions ruling, jobbers are reluctant to make short sales. In addition to the heavier buying from abroad, there has been a better domestic demand this week.

The statistical position of the market has been improved by drawing on stocks during recent months. Holdings of domestic refiners on February 29 amounted to 166,244,000 pounds, against 168,900,000 pounds at the end of the previous month and 198,452,000 pounds at the close of February last year. Exports of paraffin during the first two months of 1928 were 77,748,000 pounds, as compared with 52,851,000 pounds during the first two months last year.

Petrolatum

Export inquiry for petrolatum has shown improvement this week, but the increase in buying has not been of sufficient volume to strengthen prices to the point where sellers are able to maintain an advance. Better buying for shipment abroad has been accompanied with but a light gain in domestic demand, and sellers appear content to maintain present prices without jeopardizing demand by a price markup.

The light grades have been in fair demand during the week, with the market for snow white quoted at 8½ cents a pound at local refineries, in car-lot quantities. Lily white is quoted at 8 cents a pound. Dark green is still quoted at 2 cents a pound, with export buyers looking for stocks at around 1⅞ cents. Cream petrolatum is steady at 6⅜ cents per pound, and demand has picked up a little.

Export Market Quiet

There has been a quiet market for export gasoline and kerosene this week. There were only two cargo inquiries for gasoline during the period, one for France and one for Scandinavia. The market continued in strong position, however, reflecting recent advances at East Coast and Group 3 refineries, and sellers are still bullish on the market outlook. Standard Oil of New Jersey advanced export Navy gasoline in cases a quarter cent on April 24, and jobbers advanced Navy in bulk one-eighth cent later in the week to 10⅛ cents per gallon at East Coast export terminals. It is believed that foreign buyers would be back in the market shortly.

Cabled reports regarding the imposition of an import duty on gasoline into Great Britain came in for some discussion among operations, with considerable speculation as to what effect this would have upon buying of naphthas for shipment to England. It seems to be generally felt that demand will not be affected to any appreciable extent, unless the higher costs restrict consumption in Great Britain to a considerable degree which does not appear likely.

Kerosene export markets have been quiet. Cased kerosene for export was marked up a quarter cent on April 20 to 17.40 cents a gallon, and has held unchanged since that date, with water white at 18.40 cents. Export kerosene buying has been limited to small parcels, and there have been no cargo inquiries in the market. Strength in domestic markets, however, has made for a firm market on export stocks, and a further quarter cent advance on cased stocks is not entirely unlooked for.

Export Movement

The following table shows principal exports of petroleum and refined petroleum products from New York during the past three weeks; (all figures in gallons unless otherwise noted):

	Week Ended		
	Apr. 20	Apr. 13	Apr. 6
Gasoline	1,710,961	277,800	592,500
Kerosene	179,000	1,846,400	527,000
Naphtha	3,946,800	4,886,000	295,000
Fuel Oil	149,300	.....	3,298,220
Lubricating oil	1,499,000	2,316,700	5,500,094
Petroleum (refined)	2,285,500 Pounds	3,643,340 Pounds	1,694,000 Pounds
Petrolatum	125,500	40,500	165,792
Paraffin wax	1,166,700	1,045,300	5,548,415
Refined	.....	691,900	110,000
Scale	676,900	1,649,500	1,520,228

Aside from the above exports, the tanker Cedarpark cleared during the week with 2,310,887 gallons of burning oil for Birkenhead and 501,908 gallons of burning oil for Liverpool.

The Tuscarora, which sailed during the week, carried as part of its cargo 1,107,321 gallons of deodorized naphtha consigned to London.

Other large shipments during the week were as follows: Naphtha, 1,271,480 gallons on steamer Cedarpark for Liverpool; 322,275 gallons on the New Colombia for Matadi; and an additional quantity of 1,015,627 gallons on the Tuscarora for London. Lubricating oil, 388,400 gallons on the City of Derby for Rangoon. Petroleum, refined, 174,330 gallons on the Crown City for Brisbane; 124,990 gallons, same steamer, for Adelaide; 140,000 gallons on the Dromore Castle for Algoa Bay; 110,740 gallons, same steamer, for Capetown; 108,000 gallons on the New Colombia for Matadi; 100,000 gallons on the West Humhaw for Watti; 262,500 gallons on the Blommersdik for Soerabaya or Cassaberaean; 449,980 gallons on the City of Derby for Rangoon. Paraffin, 100,340 pounds on the Cherca for Genoa; 246,450 pounds, same steamer, for Naples; 255,209 pounds, same steamer, for Palermo; 242,997 pounds, steamer Artigas for Dublin; 251,440 pounds, steamer Wirral for Wellington.

California Oil Receipts

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ending April 21 amounted to 706,000 bbls., a daily average of 100,857 bbls., compared with 272,000 bbls., a daily average of 38,857 bbls. for the previous week and 59,679 bbls. for the four weeks ended April 23.

	Week ended Apr. 21
At Atlantic Coast ports—	
Baltimore	220,000
Boston	80,000
New York	250,000
Philadelphia	78,000
Others	78,000
Total	706,000
Daily average	100,857
At Gulf Coast ports	.....
Daily average	.....
Total Atlantic and Gulf Coast ports	706,000
Daily average	100,857
Daily average four weeks ended	59,679

Distribution of total California receipts is as follows:

Crude	174,000
Gasoline	532,000
Gas oil	.....
Total	706,000

Imports of Petroleum

Imports of crude and refined oils at the principal United States ports for the week ending April 21 were 1,996,000 bbls., a daily average of 285,143 bbls., compared with 1,520,000 bbls., a daily average of 217,143 bbls. for the week ended April 14, and a daily average of 247,071 bbls. for the four weeks ended April 21.

	Week ended Apr. 21
At Atlantic Coast ports—	
Baltimore	223,000
Boston	77,000
New York	1,209,000
Philadelphia	144,000
Others	70,000
Total	1,723,000
Daily average	246,143
At Gulf Coast ports—	
Galveston district	100,000
New Orleans and Baton Rouge	169,000
Port Arthur and Sabine district	.....
Tampa	4,000
Total	273,000
Daily average	39,000
At all United States ports—	
Total	1,996,000
Daily average	285,143
Daily average four weeks ended	247,071

MEXICAN OIL REVENUE SHOWS STEADY INCREASE

MEXICO CITY, Mexico, Apr. 28 (By Trens Agency)—Mexican revenue from petroleum has shown a constant increase since the first of this year, according to official figures of the Department of Finance. The collections for import duties on foreign oil brought into the country to be refined were low in February but this was balanced by the March collections.

The analysis of the figures for the three months is as follows:

Collections in January

Production tax	$663,886.97
Export tax	364,494.39
Import tax on foreign oil	657.30

Collections in February

Production tax	$732,308.17
Export tax	392,553.66
Import tax on foreign oil	132.68

Collections in March

Production tax	$785,024.10
Export tax	436,052.20
Import tax on foreign oil	932.35

JAMES E. BRAWLEY DEAD

James E. Brawley, for 49 years a producer in the Bradford oil field, died at his home in Derrick City, near Bradford, Pa., April 25. Mr. Brawley was 84 years of age.

Brief Items for Petroleum Refiners

Expect New Law to Increase Number of French Refineries

NEW YORK, Apr. 28.—American oil companies doing business in France, either direct or through agencies, will find themselves confronted by many new regulations in the fall, when the new French law governing petroleum imports becomes effective. The law is scheduled to go into effect not later than September 30.

Under the provisions of the new law, according to reports received by oil companies here, importers bringing 300 tons or more of either crude or refined petroleum into France monthly must hold special authorizations from the Government. These authorizations, or permits, can be secured only after application by the operator has received the approval of a special council of state, and a commission made up of representatives of various interested ministries.

These authorizations will specify the maximum imports permitted to the holder annually. Licenses to import crude oil will run not more than 20 years, while the authorizations covering refined products will be limited to three years. If the importer operates a refinery in France, and during the 20-year period covered by the authorization remodels or transforms his refinery to apply new manufacturing processes, the authorization can be extended 10 years from the date on which the new processes are put into operation. Importers are protected by a provision that authorization renewals or refusal of renewals must be made known two and a half years before the expiration of an authorization on crude and six months before a permit covering refined products is due to run out.

Holders of authorizations will be required to conform to previous French laws regulating the accumulation of reserve stocks. The holders must also assume an obligation, in proportion to their volume and the demands of the Government, to assure the eventual execution of "contracts of national interest for the acquisition of oil or substitutes either directly or indirectly by participation in the organisms which may be constituted to this end." This provision, it is believed, is due to the intention of the French government to develop imports of crude from Mesopotamia through its holdings in the Turkish Petroleum Co. and likewise covers expected further successful developments in the manufacture of synthetic motor fuels.

State Subsidy

In the event of the establishment on French territory of a modern oil refinery with a view "to the execution of contracts of national interest" state subsidy is provided for in a provision which permits the government, by special law, to subscribe to the capital of such company to any amount up to 50,000,000 francs.

Individuals or firms who have previously been importing petroleum and products will have the right to receive authorization to import annually an amount of oil at least equal to their maximum annual imports for the past five years, this provision assuring foreign companies that they will be able to maintain their business at least at the present volume.

American Oil Companies

There are some details of the new regulations which have not yet been fully interpreted to the satisfaction of American oil companies interested in French trade, but thus far no provisions of the law which have been reported have indicated that American companies are in any danger of being crowded out of the French market. On the contrary, American operators are going forward with their plans to further develop their French outlets. It is felt that any provisions which penalized foreign-owned companies operating in France, to the advantage of French companies, would be considered so discriminatory that retaliatory action would be in order.

According to current reports, several large oil companies, including Anglo-Persian, Standard Oil, and Royal-Dutch, will probably build refineries in France, to take advantage not only of the longer licensing of crude oil imports, but to cut down their costs as well, in as much as the new French import tariff rates favor crude petroleum as against refined products.

Compagnie Francaise des Petroles, which holds the French share of the Turkish Petroleum Co. stock, is expected to establish a refinery, under government subsidy. Foreign oil companies operating in France are stockholders in the Compagnie Francaise des Petroles, and thus will probably be called upon to help underwrite any refinery construction by that company.

MADE FIVE PER CENT OF GASOLINE OUTPUT

The Texas Company in 1927 produced 18,528,887 bbls. of gasoline at its 13 refineries, according to the annual report of the company which has just been announced. This was approximately 5 per cent of the total production in the United States. This total does not include the output of refineries of the California Petroleum Corp., which was recently acquired by The Texas Corporation.

Eight of the company's 13 refineries are complete in their operations and the remainder are asphalt and topping plants. The rated crude oil capacity of the 13 plants is 144,050 bbls. daily. The complete plants now have 102 units of the Holmes-Manley cracking process. This process is controlled by the company.

The following table summarizes the company's refinery operations for 1927 and 1926:

	1927	1926
Crudes run	38,466,947	36,238,063
Production:		
Gasolines	18,528,887	16,293,214
Kerosenes	3,095,172	3,231,106
Lubricating oils	1,558,181	1,455,983
Gas oils	138,606	480,766
Fuel oils	10,294,101	10,189,551
Asphalt (tons)	324,394	293,776
Paraffin wax (tons)	1,550	3,084
Roofing (squares)	989,643	971,235

TANKERS ON THE LAKES

CHICAGO, Apr 28.—The Roxana Petroleum Corp. at East Chicago states that the corporation has begun the construction of a steel tanker at the Lorain, Ohio, ship yards. The tanker will have a capacity of about 35,000 bbls. and is expected to be completed late in the summer. The statement has been made that the Roxana corporation plans to have a fleet of at least three tankers in readiness by next spring.

The Standard Oil Co. is now operating three tankers and one barge from its refinery at Whiting. The latest addition to the fleet is the R. W. Stewart, which was launched last fall. It was stated at that time that it would be able to transport 60,000 bbls. of oil.

TO START OPERATING

Construction work on the Bayou State Refining Corp.'s plant being built at Hosston, La., is progressing rapidly and the plant is expected to be in operation by the latter part of June.

Lubricating oils will be made by a vacuum distillation process and asphaltic base crude will be run. While considerable equipment is being installed for the manufacture of lubricating oils and attention is being centered on this, other products will be refined.

VACUUM NOT SEEKING MONOPOLY IN RUSSIA

NEW YORK, Apr. 28.—Following considerable publicity regarding Vacuum Oil Co 's operations in distributing Russian oil abroad, with particular reference to its plans for trade development in Great Britain, G. P. Whaley, president, this week issued the following statement:

"It is not true that Vacuum Oil Co. has acquired or is negotiating for any interest in Russian Oil Products Co. of Great Britain. It is not true that Vacuum Oil Co. has entered into any agreement or negotiations for indemnifying former owners of Russian oil properties. It is not true that Vacuum Oil Co. has offered £3,000,000 yearly, or any other amount, for a monopoly on crude oil or other products of Soviet Russia.

"It is not true that Vacuum Oil Co. has made a contract requiring the purchase of Russian petroleum for sale in South Africa, Australia or New Zealand. It is true that Vacuum Oil Co. has been negotiating with the Medway Oil & Storage Co. of Great Britain looking to union with it but it is not true that there is any Russian ownership whatsoever in the Medway company, nor any other relationship other than that the Medway company purchases a portion of its supply requirements from the Russian Naphtha Syndicate."

An earlier report from London had declared that Vacuum officials, at a conference in Paris, had arranged to acquire a monopoly of Russian oil distribution, on payment of $15,000,000 annually for the agency.

NEW SALES PROGRAM

CHICAGO, Apr. 28.—The Standard Oil Co. of Kentucky today introduced a new pricing plan which is very largely a return to the former system. All prices are to be based on the tank wagon price. The service station price will be 2 cents higher than the tank wagon price. Legitimate resale dealers or jobbers are to receive a discount of 2 cents from the tank wagon price.

Farmers are to pay the full tank wagon price. Large commercial accounts buying at service stations are allowed a discount of 1 cent per gallon from the station price. Large commercial accounts buying from the tank wagon are to pay full tank wagon price The large distributors in the state have intimated that they will adopt the same scale as the Standard Oil Co. of Kentucky. Among these are the Gulf Refining Co., the Indian Refining Co., the Mid-Continent Petroleum Corp. and others.

NEW CHICAGO DISTRIBUTORS

CHICAGO, Apr. 28.—Among the recent additions to the list of Chicago distributors are:

Buck Oil Co. of 3401 North Western Avenue. The members of the company are Poole Harrison, H. R. Robinson and C. B. Harrison. They will deal in all petroleum products.

Lakeview Petroleum Co., with headquarters at 337 West Madison Street. The members of this new concern are James R. Bassett, Elmer J. Pidgeon and J. W. Casey They will incorporate in Illinois for $10,000, and sell petroleum products of all kinds.

North Shore Petroleum Co., 5941 Rogers Avenue, has been formed by Sam Nanini, G. J. Berkley and August Russell. This concern has been in business at this address and is now taking out incorporation papers with a capital stock of 300 shares of no par value. It specializes in fuel and road oil.

REFINERY CONCESSION IN PERU

It is reported that a concession has been granted to H. V. Holden, a British promoter for the establishment of a petroleum refinery in Peru by the Congress of that country. The approved concession provides that the refining plant be operated by a company for 25 years, and then be taken over by the government without remuneration. During the term of the private operation of the plant the government is to be paid 12½ per cent of the gross receipts from the sale of gasoline.

TOLEDO REFINERIES IN A CONSOLIDATION

TOLEDO, Ohio, Apr. 28.—Merger of two Toledo oil refineries was announced Thursday when the plant of the Great Lakes Refining Co., at Front and Granada Streets, East Toledo, was taken over under a consolidation with the Hickok Producing Co., and the two organizations will be operated under the name of the Hickok Producing & Refining Co. The daily output of the Great Lakes plant is about 3,000 bbls. per day and the plant according to reports will double its capacity. The plant is along the south side of the Maumee River and has a river frontage.

The new organization will issue $1,000,000 of 6 per cent gold debentures, $1,000,000 of 6 per cent cumulative preferred stock, and 500,000 shares of no par common stock. Under the agreement between the two companies, all refining process rights owned by the Great Lakes Refining Co. becomes the property of the new company. Merger proposal was made by the Hickok company and accepted by stockholders of the Great Lakes concern. New Units to the Front Street plant will soon be added.

This will give Toledo five large refining plants; the Standard Oil Co. of Ohio, the Paragon Refining Co., the Sun Oil Co., Craig Refining Co., and the Hickok Producing & Refining Co., although there are several smaller plants scattered through the manufacturing districts of the city, making Toledo the leading refining city in the State of Ohio.

PRIMROSE REFINERY RESUMES OPERATIONS

The Wichita Falls, Tex., refinery of the Primrose Refining Co., after being shut down for one year, resumed operations on May 1. The plant will be operated at its capacity of 1,500 bbls. daily. The company will specialize in the production of special naphthas, making very little gasoline.

J. B. Joyce, formerly with the Texhoma Oil & Refining Co., (now Continental Oil Co. of Texas) and the Simms Oil Co. of Dallas, is superintendent of the plant. The company will obtain its crude oil from the Prairie Oil & Gas Co. through an arrangement that company recently made with the Pure Oil Co. in the Wichita Falls area.

J. F. Muense, who was formerly superintendent of the Primrose plant, is now with the Primtex Refining Co., Grand Prairie, Tex., near Dallas. This company is affiliated with the Primrose company.

INSTALL CRACKING STILLS

CHICAGO, Apr. 28.—The Texas Company announces that its refinery at Pryse, Ky., will be closed to enable the company to install Holmes-Manly stills and give the plant a general overhauling. The length of the shutdown is not stated.

Natural Gasoline Manufacture

LOUISIANA PLANT OPERATES AT EXCEPTIONALLY HIGH PRESSURES

SHREVEPORT, La., Apr. 28.—Operating at a higher pressure, it is believed, than any other absorption type natural gasoline plant in this section, the Natural Gas & Fuel Corp., division of Arkansas Natural Gas Co. of Delaware, has what is declared to be one of the most compactly arranged and economically operated plants in the industry in Ouachita Parish, Louisiana, a few miles from Monroe. Incidentally, it is the only plant utilizing Richland Parish gas, though one more is in prospect and others will no doubt follow.

Due to the very high rock pressure in the Richland—about 1,200 pounds—gas is delivered to the plant through the old 10-inch Crusader Smackover-Vidalia line leased from Continental Supply Co. The gas is del.vered to the plant without the aid of booster stations or compressors of any sort. After it leaves the wells the gas has to be reduced to 690 pounds before being put through the plant, and then is piped direct to the distributing centers with a drop in pressure through the plant of less than 5 pounds. So far as known, this is the only absorption plant in the country operating at so high a pressure, the absorbers being especially designed for this plant. There are five absorbers each 24 inches in diameter and 28 and 30 feet high, each with a capacity of 6,000,000 feet daily. Total capacity therefore is approximately 30,000,000 feet of gas per day with an extraction of about 10,000 gallons.

Charcoal tests on gas as it comes from the field show 300 to 320 gallons per million feet while the residue from the plant is practically dry. The entire distillation unit is of the Southwestern type and is very compact in design and layout. The gas is brought to the absorbers from the field through scrubbers and then to the towers without the necessity of being cooled, as the pipes, being underground, cool it to about 65 degrees Fahrenheit. It is then put through a residue scrubber before going on into the line north to Camden and El Dorado, Ark.

The distillation unit is designed to produce 10,000 gallons of gasoline per day under normal load. Normal oil circulation is 85,000 to 90,000 gallons per day, giving a circulation of 3 to 4 gallons per 1,000 feet of gas treated. This will also be sufficient in case the operating pressure of the absorption towers is reduced to 500 pounds.

Method of Operation

The accompanying photograph (Figure 1) shows the distillation unit. The steam preheater in the front center is for heating the oil just before it goes into the still, and raises the temperature from about 210 degrees to 330 degrees Fahrenheit. The nearest tower is the still and the one immediately behind it the reflux, on top of which is located the control section. The lean oil level in the still is

(Continued on Page 165)

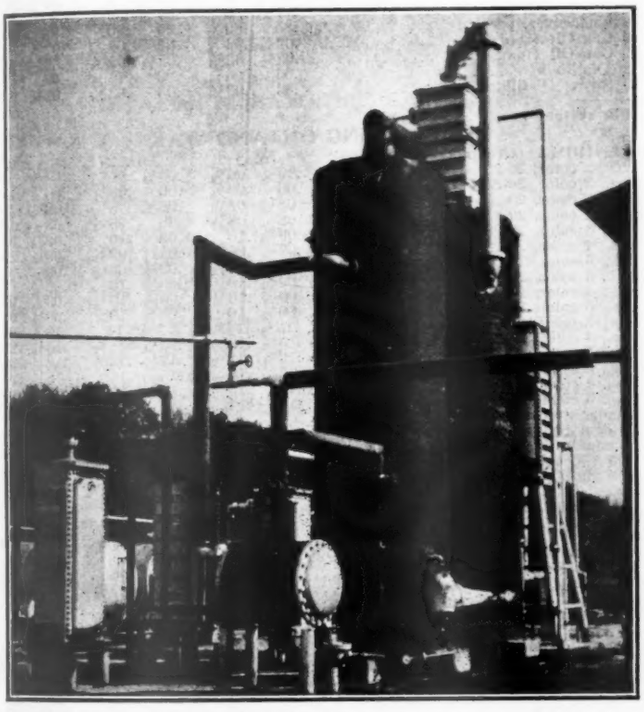


Figure 1—View of absorption plant of the Natural Gas & Fuel Corp.

MOVE TWO PINE ISLAND TO COTTON VALLEY AREA

The Ohio Oil Co. is moving its natural gasoline plant of the oil absorption type from the Pine Island Field of Louisiana to the Cotton Valley Field. The plant will be enlarged in its new location. In the Cotton Valley Field the plant was located in Section 23-21n-10w with a rated capacity of 2,800 gallons daily.

The Magnolia Petroleum Co. is also moving its Pine Island plant to the Cotton Valley Field where it will be added to a plant already operating. The deep sand development in the Cotton Valley Field has added materially to the quantity of gas available and it is expected that other additions will be made to the natural gasoline industry in that field.

MAGNOLIA DISMANTLING 12 COMPRESSION PLANTS

Reports from different parts of the Mid-Continent show that the larger manufacturers of natural gasoline are constantly making changes in their plant operations. In the older fields consolidations are being perfected and the old equipment moved to new plants.

A report covering the operations of the Magnolia Petroleum Co. shows that it is dismantling 12 of its plants. The company is one of the largest natural gasoline manufacturers and it has 37 plants in operation at the present time.

In Texas the company is dismantling the following plants: Archer, Parish lease; Comanche No. 2. Woodward lease; Comanche No. 4, Mathews lease; the Comanche No. 5 on the McMillan lease, and Burk No. 3 in the Schmisseur "B" lease. In Oklahoma the following plants have been dismantled or are being dismantled at this time: Cushing No. 4, A. and L. Scott lease; Cushing No. 6, Eagle lease; Okmulgee plant on the Lanning lease, and the Davenport No. 2 on the Sukovaty lease. In Texas the Olden No. 2 on the Connallee lease is being dismantled.

In Arkansas the Union No. 3 on the John Slaughter lease is being dismantled. In the Earlsboro Field of Oklahoma, the company is building its second plant.

All of the plants that are being dismantled are of the compression type. In most cases the equipment is being moved to other plants.

NATURAL GASOLINE MEETING

Supply men who are associate members or are interested in the coming convention of the Natural Gasoline Association of America are being asked to meet in the association offices in Tulsa on May 3 at 3:30 p. m. to arrange for the entertainment during the association's convention. Because the organization of the supply men will not be completed until the meeting to be held May 14, this temporary arrangement was necessary. Two noon dutch lunches and a program for the smoker for the second night of the convention will have to be arranged.

WET GAS SECTION

The meetings of the wet gas section during the Southwestern gas meter short course held at the State University of Oklahoma April 24 to 26 were exceptionally well attended. A paper by R. D. Turner, of the gas department of the Skelly Oil Co., proved exceptionally interesting. C. P. Bunn, assistant general superintendent of the Phillips Petroleum Co., led in the discussion of the paper after its reading and was active in the class room work.

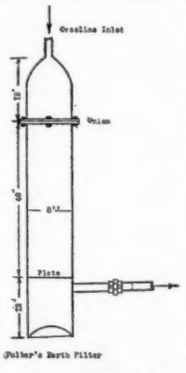
TO ATTEND GASOLINE MEETING

George L. Ratcliffe, manager of the gas department of the General Petroleum Corp. and president of the California Natural Gasoline Association, has advised he will leave Los Angeles in a party of 20 on May 18 for Tulsa to attend the convention of the Natural Gasoline Association of America, May 22, 23 and 24. They will come in a special coach, arriving in Tulsa May 20.

A PRACTICAL SUGGESTION

FILTERING OFF-COLOR GASOLINE

The decolorizing of gasoline by the following method is more applicable to that gasoline made by the compression method, where the off color is due to carrying over of lubricating oil from the compressors or from inefficient scrubbers which fail to trap crude oil or drip that is in the form of a mist.

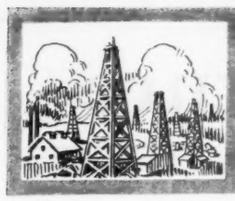


The coloring matter is removed by percolation through fullers earth. The water must be separated from the gasoline as the presence of moisture very materially lowers its decolorizing activity. Since the off color is more likely to be from low-stage compressor, it is not advisable to connect both accumulators together. In addition to the water drawoff on the accumulator, it may in some cases be necessary to install a water trap on the line between filter and accumulator.

A filter that will handle as much as 1,200 gallons of gasoline per day may be made of 8-inch casing. It should be about 6 feet long and set up vertical. About 10 or 12 inches from the bottom of the filter is a plate perforated with one-half inch holes and welded into the casing. Resting on this is a disc of one-quarter mesh hardware cloth, to each side of which is soldered a disc of brass or bronze cloth of 40 to 60 mesh. The casing carries a union near the top, which when unbolted provides a means for filling with fullers earth, which is 20 to 30 mesh. The gasoline as made is permitted to percolate through the clay and flows directly into storage. A filter of this size will handle about 8,000 gallons of gasoline before changing the clay.

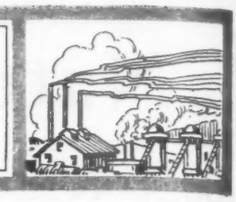
The fullers earth is revivified by burning. A furnace can be made of a piece of boiler plate about 4 feet square with two gas burners on each side, pointed down, so that flame plays directly upon boiler plate. The clay is placed on it and stirred with an iron rabble.

Practical suggestions by those connected with the construction and operation of natural gasoline plants are invited. Payment will be made as soon as suggestions are accepted. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.



GASOLINE AND NAPHTHA

OKLAHOMA (Gorup 3)—	May 1		Apr. 24		Apr. 17	
50-62 450 endpoint	.06½		.06¼	.06½	.06¼	.06⅜
56-58 450 endpoint	.06½		.06½	.06⅝	.06½	
58-60 450 endpoint	.06¾		.06⅝		.06⅝	
*58-60 437 endpoint (U. S. Motor)	.06940		.06851		.06838	
60-62 437 endpoint	.06944		.06798		.06890	
*60-62 400 endpoint	.07000		.07096		.07125	
*64-66 375 endpoint	.07214		.07250		.07062	
68-70 360 endpoint	.07½	.07¾	.07½		.07½	
64-66 437 endpoint (blend)	.07		.06¾	.07	.06¾	.06⅞

*Weighted average prices April 30 as reported by representative refiners. Sales to jobbers only.

NORTH TEXAS—						
56-58 450 endpoint	.06½		.06⅜	.06½	.06⅜	.06½
58-60 450 endpoint	.06½		.06½		.06½	
58-60 437 endpoint (U. S. Motor)	.06¾	.06⅞	.06⅝	.06¾	.06⅝	.06¾
60-62 400 endpoint	.06⅞	.07	.06⅞	.07⅛	.06⅞	.07
64-66 390 endpoint	.07¼		.07	.07¼	.07	
64-66 375 endpoint	.07½		.07¼		.07⅛	.07¼
68-70 360 endpoint	.07¼	.07½	.07¼	.07⅜	.07¼	
64-66 437 endpoint (blend)	.06¾	.07	.06¾		.06⅝	.06¾
NORTH LOUISIANA—						
58-60 437 endpoint (U. S. Motor)	.07¼		.07¼		.07¼	
ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.07	.07¼	.07	.07¼	.07	.07¼
PENNSYLVANIA—						
52-54 Naphtha	.08¾	.09	.08¼	.08¾	.08¼	.08½
54-56 Naphtha	.08¾	.09	.08½	.08¾	.08¼	.08½
58-60 Gasoline	.09¼	.09½	.08¾	.09	.08¾	.09
60 Gasoline	.09½	.09¾	.09	.09¼	.09	.09¼
62 Gasoline	.09¾	.10	.09¼	.09½	.09¼	.09½
64 Gasoline	.10	.10½	.09½	.09¾	.09½	.09¾
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic			.10½	.11	.09½	.10
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.06½	.06⅝	.06½		.06¼	
56-58 450 endpoint	.06½	.06⅝	.06½		.06⅝	.06½
58-60 437 endpoint (U. S. Motor)	.07		.06¾	.06⅞	.06¾	.06⅞
60-62 400 endpoint	.07⅛	.07¼	.07	.07⅛	.07	.07⅛
64-66 375 endpoint	.07⅜	.07½	.07¼	.07⅜	.07¼	
68-70 360 endpoint	.07½	.07⅝	.07½		.07⅜	.07½
64-66 437 endpoint (blend)	.06⅞	.07	.06¾	.06⅞	.06⅝	.06¾

NATURAL GASOLINE

OKLAHOMA (Group 3)—	May 1		Apr. 24		Apr. 17	
Grade A, 72-79.9, 375 e.p., rec. 90%	.06	.06¼	.06¼	.06⅜	.05¾	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06	.06⅛	.06¼		.05¾	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¼		.05⅝	.05¾	.04½	.04⅝
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼		.05⅝		.04½	
Grade C, 80-92, 375 e.p., rec. 78%	.05	.05⅛	.05	.05⅛	.04¼	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06	.06¼	.06¼		.05¾	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06	.06¼	.06¼		.05⅝	.05¾
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¼		.05¾		.04½	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼		.05¾		.04⅜	.04½
Grade C, 80-92, 375 e.p., rec. 78%	.05		.05		.04⅛	.04¼
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.06¼		.06½		.06	
Grade BB, 84-92, 375 e.p., rec. 85%	.05½		.05⅞	.06	.04¾	
Grade C, 80-92, 375 e.p., rec. 78%	.05⅛	.05¼	.05¼	.05⅜	.04⅝	.04½
CALIFORNIA—						
75-85, 375-390 endpoint	.08½	.09	.08½	.09	.08½	.09
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06	.06¼	.06¼		.05¾	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06		.06¼		.05¾	
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¼		.05⅝	.05¾	.04½	
Grade BB, 84.92, 375 e.p., rec. 85%	.05¼		.05⅝		.04⅜	.04½
Grade C, 80-90, 375 e.p., rec. 78%	.05		.05		.04¼	

BURNING OIL

OKLAHOMA (Group 3)—	May 1		Apr. 24		Apr. 17	
41-43 water white Kerosene	.05	.05⅛	.05	.05⅛	.05	.05⅛
42-44 water white Kerosene	.05¼	.05½	.05¼	.05½	.05⅜	.05½
NORTH LOUISIANA—						
41-43 prime white Kerosene	.05½		.05½		.05½	
NORTH TEXAS—						
41-43 water white Kerosene	.04¾	.05	.04¾	.04⅞	.04⅜	.04⅞
40-42 water white Kerosene	.04½	.04⅜	.04½	.04⅝	.04½	.04⅝
ARKANSAS—						
41-43 water white Kerosene	.05¼		.05¼		.05¼	
PENNSYLVANIA—						
43 Kerosene prime white	.06	.06¼	.06	.06¼	.06	.06¼
45 Kerosene water white	.06½	.06¾	.06¼	.06½	.06¼	.06½
46 Kerosene water white	.06¾	.06⅞	.06¾	.07	.06¾	.07
47 Kerosene water white	.07	.07¼	.06¾	.07	.06¾	.07
300 Mineral Seal	.07	.07¼	.07	.07¼	.07	.07¼
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.05½	.06	.05½	.06	.05½	.06
Engine distillate, 43-45 445 endpoint	.08	.08½	.08	.08½	.07½	.08
Engine distillate, 42-44 480 endpoint	.07	.08	.07½	.08	.06½	.07
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.05	.05¼	.05	.05¼	.05	.05⅛
42-44 water white Kerosene	.05⅜	.05½	.05⅜	.05½	.05½	

FUEL OILS

OKLAHOMA (Group 3)—	May 1		Apr. 24		Apr. 17	
Below 18 Fuel Oil, per bbl.	.72½	.75	.75	.80	.80	
18-22 Fuel Oil, per bbl.	.75		.80	.85	.82½	.85
22-26 Fuel Oil, per bbl.	.80	.85	.82½	.85	.85	
24-26 Fuel Oil, per bbl.	.82½		.85		.85	.87½
26-30 Fuel Oil, per bbl.	.85		.87½	.90	.90	
28-30 Fuel Oil, per bbl.	.90	.95	.92½	.95	.95	
32-36 Gas Oil (dark)	.02½	.02⅝	.02½		.02⅝	
32-36 Gas Oil (straw distillate)	.02⅝		.02⅝		.02⅝	
36-38 Distillate	.03		.03		.03	
38-40 Straw Distillate	.03	.03⅛	.03	.03⅛	.03	.03⅛
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars) per bbl.	.70	.75	.75		.75	.80
32-36 Gas Oil (straw)	.02⅜		.02⅜		.02⅜	
38-40 Straw Distillate	.03		.03		.03	
NORTH LOUISIANA—						
18-20 Fuel Oil, per bbl.	.85	.90	.85	.90	.85	.90
32-36 Gas Oil	.02⅞	.03	.02⅞	.03	.02⅞	.03
ARKANSAS—						
33-36 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03¾
32-36 Gas Oil (straw)	.02¾	.03	.02¾	.03	.02¾	.03
16-22 Refinery Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.85
GULF COAST (South Texas)—						
Gas Oil	.04¼		.04¼		.04¼	
Bunker C Fuel, per bbl.	1.15	1.20	1.15		1.15	
PENNSYLVANIA—						
30-34 Fuel Oil	.04¾	.05	.04¾	.05	.04¾	.05
36-40 Fuel Oil	.05	.05¼	.05	.05¼	.05	.05¼
CALIFORNIA—						
33-36 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03¾
27-32 Distillate	.02½	.03	.02½	.03	.02½	.03
*15-20 Fuel Oil, Bunker (at tide water)	.85	1.00	.85	1.00	.85	1.00
15-20 Fuel Oil (cargo lots), per bbl.	.75	.85	.75	.85	.75	.85
27 plus Diesel, per bbl.	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3, bbl.	.85	.90	.85	.90	.85	.90
22-26 Fuel Oil (sellers' cars) Group 3, bbl.	.82½	.85	.82½	.85	.82½	.87½
18-22 (Group 3), per bbl.	.77½	.80	.77½	.80	.80	.85
16-20 Smackover, per bbl.	.85	.90	.85	.90	.85	.90
32-36 Gas Oil (zero)	.02¾	.03	.02¾	.03	.02¾	.03
32-36 Gas Oil (industrial)	.02½	.02⅝	.02½	.02⅝	.02½	.02⅝
36-38 Distillate	.03		.03		.03	
38-40 Straw Distillate	.03	.03⅛	.03	.03⅛	.03⅛	.03¼

*Bunkers.

LUBRICATING OIL AND WAX

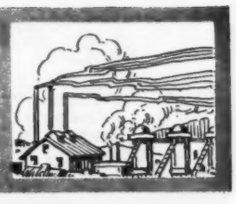
OKLAHOMA (Group 3)—	May 1		Apr. 24		Apr.17	
100 vis., 2 color, 20-25 cold test	.06¼	.06½	.06¼	.06½	.06¼	.06½
100 vis., 3 color, 20-25 cold test	.06	.06¼	.06	.06¼	.06	.06¼
150 vis., 3 color, 20-25 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
150 vis., 4 color, 20-25 cold test	.08	.08¼	.08	.08¼	.08	.08¼
180 vis., 3 color, 23-28 cold test	.09⅜	.10	.09⅜	.10	.09⅜	.10
180 vis., 4 color, 23-28 cold test	.09¼	.09⅜	.09¼	.09⅜	.09¼	.09⅜
180 vis., 5 color, 23-28 cold test	.09⅛	.09½	.09⅛	.09½	.09⅛	.09½
200 vis., 3 color, 23-28 cold test	.09½	.10¼	.09½	.10½	.09½	.10¼
200 vis., 4 color, 23-28 cold test	.09⅜	.10¼	.09⅜	.10¼	.09⅜	.10¼
200 vis., 5 color, 23-28 cold test	.09¼	.10	.09¼	.10	.09¼	.10
240 vis., 3 color, 25-30 cold test	.13¾	.14	.13¾	.14	.13¾	.14
240 vis., 4 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 5 color, 25-30 cold test	.12¼	.12½	.12¼	.12½	.12¼	.12½
280 vis., 3 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 4 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15¼
280 vis., 5 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
Cylinder Stocks:						
600, steam refined, light green	.08	.09	.08	.09	.08	.09
600, steam refined, dark green	.06	.06½	.06	.06½	.06	.06½
190-200 vis. @210 Bright Stock	.28	.29	.28	.29	.28	.29
150-160 vis. @ 210 Bright Stock	.22	.24	.22	.24	.22	.24
Waxes:						
124-126 White Crude Scale Wax	.03½	.03⅝	.03¼		.03¼	
PENNSYLVANIA—						
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundebloom	.07¾	.08	.07¾	.08	.07¾	.08
36 Miners' Neutral	.06½	.06¾	.06½	.06¾	.06½	.06¾
150, 3 color	.27	.27½	.27	.27½	.27	.27½
180, 3 color	.31	.31½	.31	.31½	.31	.31½
2.0. 3 color	.33½	.34	.33½	.34	.33½	.34
220, 3 color	.34½	.35	.34½	.35	.34½	.35
600, steam refined	.09¼	.09½	.09¼	.09½	.09¼	.09½
635, steam refined	.10¼	.10½	.10¼	.10½	.10¼	.10½
650, steam refined	.11	.11½	.11	.11½	.11	.11½
600, Pennsylvania flash	.14	.15	.14	.15	.14	.15
*550, E filtered	.14½	.15	.14½	.15	.14½	.15
*600, E filtered	.15½	.15¾	.15½	.15¾	.15½	.15¾
600, E filtered	.14¾	.15¼	.14¾	.15¼	.14¾	.15¼
600, D filtered	.22	.23	.22	.23	.22	.23
550, E filtered	.15½	.16	.15½	.16	.15½	.16
550, D filtered	.21½	.22	.21½	.22	.21½	.22
Pennsylvania Bright Stock	.28½	.29	.28	.28¼	.27	.27½
†122-124 White Crude Scale Wax	.04	.04⅛	.03⅜	.03½	.03⅜	.03½
†124-126 White Crude Scale Wax	.04	.04⅛	.03⅜	.03½	.03⅜	.03½

*At Warren, Pa. †At New York.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.07½	.08	.07½	.08	.07½	.08
No. 2 color, 200 vis., pale oil	.09½	.10	.09½	.10	.09½	.10
No. 3 color, 300 vis., pale oil	.11½	.12	.11½	.12	.11½	.12
No. 3½ color, 500 vis., pale oil	.12	.13	.12	.13	.12	.13
No. 4 color, 750 vis., pale oil	.14	.15	.14	.15	.14	.15
No. 5 to 6 color, 200 vis., red oil	.07½	.08	.07½	.08	.07½	.08
No. 5 to 6 color, 300 vis., red oil	.08½	.09	.08½	.09	.08½	.09
No. 5 to 6 color, 500 vis., red oil	.10	.10½	.10	.10½	.10	.10½
No. 5 to 6 color, 750 vis., red oil	.12	.12½	.12	.12½	.12	.12½
No. 2½ color, 200 vis., pale filtered	.11½	.12	.11½	.12	.11½	.12
No. 2½ color, 300 vis., pale filtered	.13	.13½	.13	.13½	.13	.13½
No. 2½ color, 500 vis., pale filtered	.15	.15½	.15	.15½	.15	.15½
No. 2½-3 color, 750 vis., pale filtered	.17½	.19	.17½	.19	.17½	.19
CALIFORNIA—						
130 vis., 2½-3 color	.09	.10	.09	.10	.09	.10
200 vis., 2½-3 color	.10	.10½	.10	.10½	.10	.10½
300 vis., 3-3½ color	.10½	.11	.10½	.11	.10½	.11
350 vis., 3½-4 color	.11	.12	.11	.12	.11	.12
400 vis., 3½-4 color	.13	.14	.13	.14	.13	.14
Red Neutral:						
200 vis., 4½-5 color	.08½	.09	.08½	.09	.08½	.09
300 vis., 5-6 color	.09	.10	.09	.10	.09	.10
400 vis., 5-6 color	.10½	.11	.10½	.11	.10½	.11
500 vis., 4½-5 color	.11½	.12	.11½	.12	.11½	.12

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.



500 vis., 5-6½ color	.11	.11½	.11	.11½	.11	.11½
600 vis., 6 plus color	.12½	.13	.12½	.13	.12½	.13

Note: Bright Stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	May 1	Apr. 24	Apr. 17
Gasoline, U. S. Motor, 58-60 437	.09¾	.09½	.09½
Kerosene, water white, 41-43	.07½	.07½	.07½
*Fuel Oil, bunker "C," 14-16, per bbl.	1.35	1.35	1.35
*Fuel Oil, Diesel, 28-30, per bbl.	2.00	2.00	2.00
Gas Oil, 28 plus	.05¼	.05¼	.05½
25 pale Paraffin Oil	.12	.12	.12
28 pale Paraffin Oil	.07	.07	.07
28S red Paraffin Oil	.11½	.11½	.11½
250 red Paraffin Oil	.10½	.10½	10½
225 red Paraffin Oil	.09½	.09½	.09½
200 red Paraffin Oil	.09	.09	.09
Refined Wax:			
120-122 a.m.p., per lb.	.037/8	.037/8	.04
125-127 a.m.p., per lb.	.041/4	.041/8	.041/8
130-132 a.m.p., per lb.	.043/4	.041/2	.041/2
135-137 a.m.p., per lb.	.061/4	.061/8	.061/8
Petrolatum, in bbls., carload lots, per lb.:			
Dark Green	.02	.02	.02
Amber	.031/4	.031/4	.033/8
Extra amber	.033/4	.033/4	.033/4
Cream	.063/8	.063/8	.061/2
Lily White	.08	.08	.081/4
Snow White	.081/2	.081/2	.091/4

*Lighterage, 6.5c a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	May 1	Apr. 24	Apr. 17
Gasoline, U. S. Motor, 58-60 437, in cases	.2540	.2540	.2515
Kerosene, standard white, in cases	.1740	.1740	.1715
Kerosene, water white, in cases	.1840	.1840	.1815
600, steam refined cylinder stock, in bbls.	.163/4	.163/4	.163/4
635, steam refined	.18	.18	.18
650, steam refined	.181/2	.181/2	.181/2
600, Pennsylvania	.22	.22	.22
630, Pennsylvania flash	.34	.34	.34
600, Warren E	.24	.24	.24
600, Oil City E	.23	.23	.23
Light 135 Bright Stock	.37	.36	.37
Dark 135 Bright Stock	.341/2	.34	.35

LOS ANGELES EXPORT PRICES

	May 1		Apr. 24		Apr. 17	
Kerosene, water white	.05	.051/4	.05	.051/4	.05	.051/4
U. S. Motor Gasoline, 53-55 437 e.p.	.071/4	.071/2	.071/4	.071/2	.061/2	.071/2

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

*Corsicana heavy (March 14, 1927) $1.00
Other fields ..... See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE
Carson and Hutchinson

Below 31 gravity	$ .60
31-31.9	.65
32-32.9	.70
33-33.9	.73
34-34.9	.76
35-35.9	.79
36-36.9	.82
37-37.9	.85
38-38.9	.88
39-39.9	.91
40-40.9	.94
41-41.9	.97
42-42.9	1.00
43-43.9	1.03
44 and above	1.06

Wheeler County

Below 29 gravity	$ .60
29-29.9	.65
30-30.9	.70
31-31.9	.75
32-32.9	.80
33-33.9	.83
34-34.9	.86
35-35.9	.89
36-36.9	.92
37-37.9	.95
38-38.9	.98
39-39.9	1.01
40-40.9	1.04
41-41.9	1.07
42-42.9	1.10
43-43.9	1.13
44 and above	1.16
Gray County	See gravity table

Humble Oil & Refining Co. Magnolia Petroleum Co. February 21.

†Iatan	Same as North Texas
Crane-Upton-Crockett	See gravity table
†Glasscock	$ .60
†Chalk	.80

*Includes Howard County and Westbrook Fields. Mariand Refining Co. pays $1.05 for Howard County crude, effective May 21.
†Magnolia Petroleum Co., Jan. 14, 1928.

ARKANSAS-NORTH LOUISIANA

*Cotton Valley (Below 36 gravity April 11)	$ .75
Bellevue (Feb. 24, 1927)	1.20
Urania (Nov. 18, 1927)	.75
East El Dorado (March 16, 1927)	1.00
Other fields	See gravity table

*Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Cotton Valley and Bellevue, Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co. and Magnolia Petroleum Co.; (Magnolia Petroleum Co. posted Cotton Valley February 8); Urania, Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co., Gulf Refining Co.

GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop.)

‡Grade A (March 14)	$1.20
Grade B	See gravity table
*Jennings, La. (March 14)	$1.05
†Saratoga, Batson, Daytona (March 14, 1927)	$1.20
‡Markham (March 14)	1.00

*Gulf Pipe Line Co. †Sun Pipe Line Co. ‡Humble Oil & Refining Co. and other major buyers. §The Texas Company.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

*Luling (May 5)	$1.00
†Mirando (March 14)	1.00
Rockdale-Minerva (April 15):	
Below 38 gravity	1.25
38-39.9 gravity	1.27
39-39.9 gravity	1.29
40 and above	1.31
*Thrall	
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co. Thrall prices same as North Central Texas less 19¾ cents per cwt. freight.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.
(Effective March 14)

Rock Creek, Wyo. (March 12)	$1.25
Salt Creek	See gravity table
Big Muddy (March 12)	$1.25
Mule Creek (May 1)	1.10
Grass Creek, heavy	.90
Grass Creek, light	1.32
Elk Basin (March 12)	1.33
Lance Creek (March 12)	1.33
Poison Spider	1.00
Notches	.65
Rex Lake (February 22)	1.10
Osage	1.32
Lost Soldier (contract)	.95
Greybull-Torchlight	.132
Hamilton Dome	.85

(Continued on Page 158)

CRUDE OIL GRAVITY TABLE

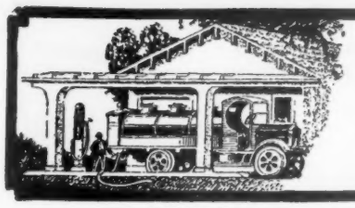
Gravity—	1 Okla., Kans. N. C. Tex.	2 No. La. and Arkansas	3 Smackover, Ark.	4 Stephens, Ark.	5 Gray County (Texas Panhandle)	6 Crane, Upton, Pecos, Crockett, Winkler Counties (West Texas)	7 Salt Creek, Wyo.	8 Grade B & Light Crude (G. Coast)	9 Somerset (South Central Texas)
24 and above	....	....	.90	....	....	....	....	....	....
Below 24	.76	....	.75	....	....	....	....	....	....
Below 25	....	....	....	....	....	....	....	1.15	....
24 to 24.9	.76	....	....	....	....	....	....	....	....
25 to 25.9	.81	....	....	....	....	....	....	....	....
Below 26	....	....	....	....	.60	.60	....	....	....
26 to 26.9	.86	....	....	....	.60	.60	....	1.19	....
27 to 27.9	.91	....	....	....	.65	.60	....	1.21	....
Below 28	....	.91	....	.85	....	....	....	....	....
28 to 28.9	.96	.96	....	.87	.70	.60	....	1.23	....
29 to 29.9	1.01	1.01	....	.89	.75	.60	1.01	1.25	....
30 to 30.9	1.06	1.06	....	.91	.80	.60	1.06	1.27	....
31 to 31.9	1.11	1.11	....	.93	.85	.60	1.11	1.29	....
32 to 32.9	1.16	1.16	....	.95	.90	.60	1.16	1.31	1.08
33 to 33.9	1.19	1.19	....	....	.93	.60	1.19	1.33	1.07
34 to 34.9	1.22	1.22	....	....	.96	.60	1.22	1.35	1.09
35 to 35.9	1.25	1.25	....	....	.99	.60	1.25	1.37	1.11
36 to 36.9	1.28	1.28	....	....	1.02	.60	1.28	....	1.13
37 to 37.9	1.31	1.31	....	....	1.05	....	1.31	....	1.15
38 to 38.9	1.34	1.34	....	....	1.08	....	....	....	1.17
39 to 39.9	1.37	1.37	....	....	1.11	....	....	....	....
40 to 40.9	1.40	1.40	....	....	1.14	....	....	....	....
41 to 41.9	1.43	1.43	....	....	1.17	....	....	....	....
42 to 42.9	1.46	1.46	....	....	1.20	....	....	....	....
43 to 43.9	1.49	1.49	....	....	1.23	....	....	....	....
44 to 44.9	1.52	1.52	....	....	1.26	....	....	....	....
45 to 45.9	1.55	1.55	....	....	....	....	....	....	....
46 to 46.9	1.58	1.58	....	....	....	....	....	....	....
47 to 47.9	1.61	1.61	....	....	....	....	....	....	....
48 to 48.9	1.64	1.64	....	....	....	....	....	....	....
49 to 49.9	1.67	1.67	....	....	....	....	....	....	....
50 to 50.9	1.70	1.70	....	....	....	....	....	....	....
51 to 51.9	1.73	1.73	....	....	....	....	....	....	....
52 and above	1.76	1.76	....	....	....	....	....	....	....

Column 1—Magnolia Petroleum Co. posted schedule February 21, 1928, making price below 30 gravity $.75 per barrel, 30-30.9 gravity $.90 and 31-31.9 gravity $1.05, with 3 cents increase per degree higher in gravity, taking 32-32.9 gravity at $1.16 as basis, with a top price of $1.76 for 52 and above.
Humble Oil Refining Co. posted $1.52 on all oil 44 gravity and above.
Oklahoma—Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., Carter Oil Co., The Texas Company, February 21.
North Central Texas—[Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas), Iatan and Panola (Magnolia) only. Iatan posted a flat price of $.93 by Magnolia on January 14, 1928). Currie, Nocona, Moran and Corsicana light]; Texas, Prairie, Sinclair and Gulf; The Texas Company, Humble Oil & Refining Co., February 21.
Kansas—Prairie, Sinclair; Carter, The Texas Company, February 21.
Column 2—Arkansas and North Louisiana—[Caddo, Bull Bayou, Crichton, De Soto, Haynesville, Homer and El Dorado only]; Standard Oil Co. of Louisiana, Texas Pipe Line Co., Louisiana Oil Refining Co., February 21 and Magnolia Petroleum Co., February 23.
Column 3—February 6, Louisiana Oil Refining Co. February 7, Standard Oil Co. of Louisiana, The Texas Company, Gulf Refining Co., Magnolia Petroleum Co. February 8, and Atlantic Production Co. February 10.
Column 4—Atlantic Oil Producing Co., Louisiana Oil Refining Corp., The Texas Company, February 22.
Column 5—Humble Oil & Refining Co., Magnolia Petroleum Co., February 21.
Column 6—Humble Oil & Refining Co., August 23; Mariand Refining Co., Magnolia Petroleum Co., and Gulf Pipe Line Co., August 24.
Column 7—Midwest Refining Co., February 21. All crude over 37 gravity, $1.31 per barrel.
Column 8—Humble Oil & Refining Co. and other major buyers (schedule ends "35 and above"), March 14, with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. posted 2 cents differential for each degree above 35 gravity and $1.47 for 40 gravity and above.
Column 9—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

CALIFORNIA CRUDE OIL PRICES
Standard Oil Co.-Union Oil Co. (Effective April 1, 1927)*

Gravity—	1 Fullerton, Seal Beach, Long Beach, Richfield, Rosecrans-Dom'guez, Torrance-Inglewood	2 Whittier, La Habra, Montebello	3 Kern River, Newhall-McKittrick, Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 Coyote	5 Santa Fe Springs	6 Coalinga	7 Wheeler Ridge	8 Santa Maria, Ventura, Orcutt, Salt Lake
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.85	.85	.75	.85	....	.75	.75	.85
16°	.85	.85	.75	.85	....	.75	.75	.85
17°	.85	.85	.75	.85	....	.75	.75	.85
18°	.85	.85	.75	.85	....	.75	.75	.85
19°	.85	.85	.75	.85	....	.75	.75	.85
20°	.85	.85	.77	.85	....	.76	.76	.85
21°	.86	.85	.79	.86	.85	.77	.77	.85
22°	.87	.85	.81	.87	.85	.78	.78	.85
23°	.88	.85	.83	.88	.85	.79	.79	.85
24°	.89	.85	.85	.89	.85	.80	.80	.85
25°	.90	.86	.87	.90	.86	.81	.81	.86
26°	.92	.87	.89	.91	.87	.83	.82	.87
27°	.94	.88	.91	.92	.88	.85	.83	.88
28°	.96	.89	.93	.93	.89	.87	....	.89
29°	.98	.90	.96	.94	.91	.89	....	.91
30°	1.00	.91	.99	.95	.92	.91	....	.93
31°	1.03	....	1.02	....	.95	.93	....	.95
32°	1.06	....	1.05	....	.97	.95	....	.97
33°	1.09	....	1.08	....	.99	.97	....	.99
34°	1.12	....	1.11	....	1.01	.99	....	1.01
35°	1.15	....	....	....	1.03	1.01	....	1.03
36°	1.18	....	....	....	1.06	....	....	1.06
37°	1.21	....	....	....	1.09	....	....	1.09
38°	1.24	....	....	....	1.12	....	....	1.12
39°	1.27	....	....	....	1.15	....	....	1.15
40°	1.30	....	....	....	....	....	....	....
41°	1.33	....	....	....	....	....	....	....
42°	1.36	....	....	....	....	....	....	....

*Column 1—Long Beach, Seal Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richland and Fullerton, 14 to 30 degrees; Torrance and Inglewood, 14 to 28 degrees; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.
Column 2—Whittier crude, 14 to 22 degrees; Montebello, 14 to 30 degrees.
Column 3—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset, Buena Vista and Elk Hills, 14 to 33 degrees; Lost Hills and Belridge, 14 to 34 degrees.
Column 8—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura and Orcutt, 14 to 39 degrees. Posted by Union Oil Co.



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns May 1.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago dist. ..	14.0	16.0	...	12.0
Decatur, Ill. ...	14.2	16.2	...	12.1
St. St. Louis ...	13.1	15.35	...	11.2
Joliet	14.4	16.4	...	12.3
Peoria	14.2	16.2	...	12.1
Quincy	14.2	16.2	...	11.9
Davenport, Ia..	17.5	19.5	3.0	12.3
Des Moines ...	17.5	19.5	3.0	12.3
Keokuk	17.5	19.5	3.0	12.3
Sioux City	17.1	19.1	3.0	11.9
Duluth, Minn. .	17.5	19.5	2.0	12.9
Minneapolis ...	16.0	18.0	2.0	12.9
Mankato	14.1	16.1	2.0	12.7
La Crosse, Wis.	17.2	19.2	2.0	13.0
Milwaukee	16.1	18.1	2.0	11.9
Madison	16.3	18.3	2.0	12.1
Detroit, Mich. ..	17.8	19.8	3.0	13.7
Grand Rapids ..	17.7	19.7	3.0	13.6
Saginaw	17.9	19.9	3.0	13.8
Evansville, Ind.	17 4	19 4	3 0	13.4
Fort Wayne ...	17 4	19 4	3 0	13 4
Indianapolis ...	17.2	19.2	3.0	12.2
South Bend ...	17.4	19.4	3.0	13.4
Fargo, N. D. ..	16.9	20.9	2.0	14.9
Huron, S. D. ..	19.5	21.5	4.0	13.9
Sioux Falls ...	18.0	20.0	4.0	13.4
K. C., Mo.*	16.9	18.9	3.0	10.6
Springfield*	16.8	18.8	3.0	11.5
St. Louis*	15.6	17.9	2.5	11.3
St. Joseph* ...	16.5	18.5	3.0	11.2
Wichita, Kans..	14.8	16.8	2.0	10.8
Bartlesville, Ok.	15.5	17.5	3.0	10.5

NAPHTHAS

	Tank wagon	Tank car
Oleum spirits	14.7	9.5
V. M. & P. naphtha	16.2	11.0
Cleaner's naphtha	15.0	12.0
Stanisol	19.0	12.5

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Les than 100 gallons	9.0
100 to 799 gallons	8.0
800 or more gallons	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

Tank wagon prices of gasoline subject to discount of 1 cent a gallon on dumps of 50 gallons or more throughout territory except Chicago district where discount applies only to dumps of 100 gallons. Kerosene subject to 1 cent discount on dumps of 50 gallons or more.

Outside the Chicago district, the following quantity discount schedule is in effect on monthly tank wagon deliveries of gasoline: 6,000 gallons or more, 1½ cents; 10,000 gallons or more, 2 cents; 15,000 gallons or more, 3 cents. These discounts include the 1 cent allowed on dumps of 50 gallons or more at one delivery.

Within the Chicago district, the following quantity discount schedule is in effect on tank wagon deliveries of gasoline. 750 to 2,000 gallons, one-half cent; 2,000 to 3,000 gallons, three-fourths cent; 3,000 to 6,000 gallons, 1 cent; 6,000 to 10,000 gallons, 1½ cents; 10,000 to 15,000 gallons, 2 cents; 15,000 gallons or more, 3 cents. These discounts are in addition to the special discount of 1 cent on dumps of 100 gallons or more at one delivery.

If the quantity bought during the year is equal to or exceeds 12 times the agreed monthly quantity, the discount is paid or credited on the entire quantity at the close of the term less the monthly payments made during the year.

*State tax 2 cents; remainder city tax.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
All Ohio points.	17.0	19.0	3.0	14.5

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.*

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex. ...	14.0	18.0	3.0	11.0
Fort Worth ...	15.0	18.0	3.0	11.0
Houston	14.0	18.0	3.0	15.0
San Antonio ..	15.0	18.0	3.0	10.0
El Paso	17.0	20.0	3.0	16.0
Texarkana ..	16.0	20.0	3.0	12.0
Muskogee, Ok..	17.0	18.0	3.0	11.0
Okla. City	16.0	17.0	3.0	11.0
Tulsa	15.0	17.0	3.0	11.0
Ft. Smith, Ark.	18.0	20.0	5.0	12.0
Little Rock ...	20.0	22.0	5.0	12.0

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, one-half cent; over 2,000 gallons, three-quarters cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cent; over 6,000 gallons, 1½ cents; over 8,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons a month, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases in the tank wagon discounts.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	16.5	18.5	3.0	14.0
Baton Rouge ..	15.0	17.0	3.0	13.5
Alexandria	16.0	18.0	2.0	14.0
LaFayette	16 0	18 0	2 0	13 5
Lake Charles .	16.5	18.5	2.0	14.0
Shreveport	16.5	18.5	2.0	13.0
Knoxv'le, Tenn.	19.0	21.0	3.0	15 0
Memphis	18.0	20 0	3 0	14 0
Chattanooga ..	19.0	21 0	3 0	15 0
Nashville	19 0	21 0	3 0	15 0
Br'stol	20 0	22 0	3 0	14 0
Lit. Rock, Ark..	20.0	22.0	5.0	12.0

*Tax of 3 cents includes city tax of 1 cent.
*Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga. ..	17.0	19.0	4.0	14.0
Augusta	19.0	22.0	4.0	16.5
Macon	16.0	19.0	4.0	13.5
Savannah	17.0	19.0	4.0	14.5
Birm'ham, Ala.	18.0	21.0	4.0	14.5
Mo'lle	17.0	20.0	4.0	14.0
Montgomery ..	16.0	19.0	5.0	15.5
Clarks'le, Miss..	17.0	20.0	4.0	11.5
Jackson	17.0	20.0	4.0	11.5
Natchez	16.5	19.5	4.0	14.0
Gulfport	18.5	21.5	6.0	14.0
Vicksburg	16.5	19.5	4.0	14.0
Jack'ville, Fla..	18.0	21.0	5.0	11.5
Miami	20.0	23.0	5.0	14.5
Pensacola	19.0	22.0	5.0	13.0
Tampa	18.0	21.0	5.0	13.0
Lexington, Ky..	18.0	21.0	5.0	15.5
Covington	19.0	23.0	5.0	15.5
Louisville	18.0	21.0	5.0	15.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene only. Pensacola tax includes 1-cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa..	16.0	*22.0	...	13.0
Philadelphia ..	16.0	*22.0	...	13.0
Scranton	16.0	*22.0	...	13.0
Allentown	16.0	*22.0	...	13.0
Altoona	16.0	*22.0	...	13.0
Erie	12.0	*18.0	...	13.0
Dover, Del. ...	19.0	22.0	3.0	13.0
Wilmington ...	19.0	22.0	3.0	12.0
Spring'd, Mass.	15.0	15.0	...	15.0
Worcester	15.0	15.0	...	15.0
Boston	15.0	15.0	...	15.0
Providence ,R.I.	20.0	20.0	2.0	15.0
Hartford, Conn.	20.0	20.0	2.0	14.0
New Haven ...	20.0	20.0	2.0	15.0

*Includes tax of 3.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y. .	17.0	19.0	...	15.0
New York* ...	17.0	19.0	...	15.0
Buffalo	15.0	18.0	...	14.0
Rochester	15.0	18.0	...	14.0
Syracuse	17.0	19.0	...	15.0
Boston, Mass. .	18.0	19.0	...	15.0
Augusta, Me. ..	21.0	22.0	4.0	15.0
Manch'r, N. H.	21.0	22.0	4.0	15.0
Burlington, Vt..	20.0	22.0	3.0	15.0

*Prices in steel barrels.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	15.25	17.25	2.0	12.25
McCook	14.75	14.75	2.0	11.50
Norfolk	16.75	18.75	2.0	12.75
N. Platte	17.75	19.75	2.0	13.50
Scottsbluff	17.25	19.25	2.0	13.00

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
San Francisco .	17.0	21.0	3.0	15.5
Pueblo	18.0	18.0	3.0	15.5
Los Angeles ..	16.5	20.5	3.0	15.5
Reno, Nev.	22.0	26.0	4.0	19.0
Portland, Ore..	17.5	21.5	3.0	16.5
Seattle, Wash..	16.5	20.5	3.0	16.5
Tacoma	16.5	20.5	3.0	16.5
Spokane	20.5	24.5	3.0	20.5
Phoenix, Ariz..	23.0	27.0	4.0	20.5

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City ..	18.0	20.0	2.0	14.0
Newark, N. J. .	18.0	20.0	2.0	14.0
Annapolis, Md..	20.0	23.0	4.0	14.0
Baltimore	20.0	23.0	4.0	12.0
Cumberland	20.0	23.0	4.0	14.0
Washington ...	18.0	21.0	2.0	14.0
Danville, Va. ..	21.0	....	5.0	14.0
Norfolk	21.0	24.0	5.0	14.0
Petersburg	21.0	24.0	5.0	14.0
Roanoke	21.0	24.0	5.0	14.0
Richmond	19.0	22.0	5.0	14.0
Ch'rlet'n, W.Va.	20.0	23.0	4.0	14.0
Keyser	20.0	23.0	4.0	14.0
Parkersburg ..	18.0	21.0	4.0	14.0
Wheeling	20.0	23.0	4.0	14.0
Charlotte, N. C.	20.0	23.0	4.0	14.0
Hickory	20.0	20.0	4.0	14.0
Mt. Airy	20.0	20.0	4.0	14.0
Salisbury	20.0	20.0	4.0	14.0
Charl'ston, S. C.	20.0	23.0	5.0	14.0
Columbia	20.0	23.0	5.0	14.0

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo. ..	17.0	19.0	3.0	14.5
Pueblo	17.0	19.0	3.0	14.5
Grand Junction	20.5	23.5	3.0	18.0
Casper, Wyo. ...	17.5	19.5	3.0	13.0
Cheyenne	18.0	20.0	3.0	14.5
Butte, Mont. ..	22.5	22.5	3.0	19.0
Helena	22.5	24.5	3.0	19.0
Salt Lake, Utah	20.0	22.0	3.5	17.0
Albu'que, N. M.	22.0	25.0	5.0	17.0
Boise, Idaho ..	23.5	26.5	4.0	19.0
Twin Falls	23.5	25.5	4.0	19.0

TANK WAGON CHANGES

April 13—Standard Oil Co. of Louisiana increased kerosene 1 cent to 13.5 cents in LaFayette, Ind.

April 19—Standard Oil Co. of Indiana increased the gasoline tank wagon and station prices 2 cents in Duluth, Minn., to 17.5 and 19.5 cents.

April 24—Standard Oil Co. of Louisiana increased the gasoline tank wagon and station prices 1 cent throughout Tennessee.

CARPENTER WILL AGAIN HEAD KANSAS JOBBERS

WICHITA, Kans., Apr. 27.—A. C. Carpenter, president of the Lesh Oil Co., of Ottawa, Kans. today was re-elected president of the Kansas Oil Men's Association in its fourteenth annual convention. Mr. Carpenter is a widely known oil jobber in the State who has taken an active interest in the work of the association heading its activities for the past two years.

J. S. Longshore of Topeka was re-elected vice president and J. A. Motter of this city, secretary. Mr. Motter has served as field secretary of the association for several years. Others officers elected were: A. W. Long, treasurer; R. H. Harvey of Colby, second vice president; C. D. Williams of Anthony, third vice president and R. M. Marks of Baxter Springs, fourth vice president. J. T. Nuttle, Wichita, E. S. Rule, Wichita, and W. L. Rosier of Hutchinson are members of the executive committee.

The business sessions of the two-day convention were largely devoted to a discussion of state matters of particular interest to Kansas jobbers. Several state officials spoke at the meeting. Although no official action was taken it was apparent that Kansas jobbers do not take kindly to the proposal to increase the present 2-cent tax on gasoline to 3 or 4 cents. Frank Packard, tax expert and attorney for the Standard Oil Co. of Indiana pointed out the dangers of high gasoline taxes. In this connection J. S. Longshore strongly condemned the tendency of state governments to interfere in the oil man's business.

The quantity discount method of selling gasoline which has been effective in Kansas for two years also is not favored by the Kansas jobbers. This sales method which was inaugurated by the Standard Oil Co. of Indiana provides a sliding scale of prices both in tank wagon and service station sales based on the quantity sold. It was stated that the plan left no profits to the oil jobber in many cases.

Lou Harrington, executive manager of the Independent Oil Men of America was in attendance at the convention and spoke briefly regarding the outlook for this year. At the banquet Thursday night the Bureau of Mines picture "The Story of Petroleum" was shown.

PRESIDENT R. C. HOLMES VISITS TULSA OFFICES

R. C. Holmes, president of The Texas Company, was at the Tulsa offices of the company on Tuesday. He visited some of the company's properties near Tulsa, including the refinery located in West Tulsa. He left Tuesday noon for New York. D. J. Moran, vice president of The Texas Company, also visited the Tulsa offices of the company during the past week.

On Tuesday morning W. G. Skelly, president of the Skelly Oil Co., Tulsa, was host to Mr. Holmes and his party at breakfast. Several prominent oil men in Tulsa also were guests of Mr. Skelly.

CRUDE OIL PRICES

(Continued from Page 157)

Cat Creek (Mont.)	1.33
Sunburst (Mont.) (Jan. 25, 1928)	1.50
Artesia (March 12)	1.00
Hogback (N. Mex.) (March 14)	1.33

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective December 17)

Penna Grade Oil in New York Transit Line (New York)	$3.30
Bradford District Oil in National Transit Lines (Pennsylvania)	2.00
Penna Grade Oil in National Transit Lines (Pennsylvania)	2.05
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	2.05
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	2.00
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.05
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (February 8, 1928)	1.35
Corning 36-cent grade oil in Buckeye Pipe Line Co.'s line (December 19)...	1.45
Corning 25-cent grade oil in Buckeye Pipe Line Co.'s lines (December 19)..	1.40
Somerset Oil in Cumberland Pipe Line lines (Kentucky) (February 8, 1928).	1.45
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (August 1)....	.95
Keister (Pennsylvania) (August 1)	1.10

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective March 14, 1927)

Lima (February 10)	$1.55
Wooster	1.57
Illinois (February 23, 1928)	1.50
Indiana (February 10, 1928)	1.33
Princeton (February 23, 1928)	1.50
Plymouth (February 23, 1928)	1.33
Waterloo (November 17, 1926)	1.35
*Western Kentucky	.85
**Saginaw, Mich., Saginaw Sand (February 10)	1.80
**Saginaw, Mich., Berea Sand (February 10)	1.70
†Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 16)	1.50
‡Oil in lines of Stoll Oil Refining Co. in Oil City, Ky. (March 16, 1927).....	1.50
§Oil Springs (Canada) (February 10, 1928)	2.03
§Petrolia (Canada) (February 10, 1928)	1.91

*Posted by Ohio Oil Co.
†Posted by Paragon Development Co.
‡Posted by Stoll Oil Refining Co.
§Posted by Imperial Oil Co., Ltd.
**Posted by Sun Oil Co.

MEXICAN CRUDE

Note—Due to the fact that the exportation of Tuxpam light crude oil has become a negligible factor, prices will no longer be published.

*Panuco heavy (f.o.b. Mexican ports)..$1.15

*$1.15.

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Oil Securities in Spectacular Advance

Long Anticipated Movement in Full Swing With Many Issues Touching New Highs. Not Limited to Any Branch

The long anticipated movement in oils made a spectacular entry into the market this week with the result that almost every active company found its securities selling at new high ground. The wave was general in scope, and not confined to companies in any one special branch of petroleum activity.

The improvement in dealing with overproduction, with remedial efforts at hand in the form of limitation of wildcat drilling and amicable progress manifested in the fields of West Texas which have proved troublesome, together with the possibility of advanced prices for the better gravities of crude oil, and slight advances and a generally strengthened tone in the gasoline and refined products have tended to renew the confidence of the investing public in the oils again, after a lapse of many months.

Such offerings as Humble Oil, Independent Oil & Gas, Standard of New Jersey, and The Texas Corporation soared to new heights and were only checked in their upward movement by the advance of call money from 5 to 6 per cent. Even this advance failed to register many losses of importance in stocks which had climbed so steadily in 10 days. Humble has travelled from 65 to 84 in about two weeks, and sold off less than $4 per share on the money advance. Gulf Oil, touching new ground at 130, was only slightly weakened by the increase of the Federal rediscount rate.

The executives of the oil companies have been long on their market position for some time, realizing that the oils had passed through their crisis, and were in excellent position to advance; but now the oils seem to have attracted the interest of the speculative public: a public which has grown tremendously and which has been constantly lured by the sensational advances in the present prolonged bull market.

Atlantic Refining

Net profit of Atlantic Refining Co. and subsidiaries for the quarter ended on March 31 was $1,357,357 after depreciation, depletion, taxes and other charges, equivalent after preferred dividends to $2.01 a share on 500,000 shares of common stock. This compares with $2,460,-125 or $4.21 a share in the previous quarter and $1,335,000 or $1.97 a share in the third quarter of 1927. In the first quarter last year the company showed a net loss of $2,679,758.

Barnsdall

The Barnsdall Corp. reported a net income of $385,460 for the first quarter of 1928 after interest, federal taxes, depreciation and depletion, equivalent to 31 cents a share on the 1,249,673 combined A and B shares. This compares with $955,599, or 83 cents a share on 1,142,-601 combined A and B shares in the same quarter of 1927.

Texon Oil

In remarks accompanying report to stockholders for the year ended March 31, 1928, Frank T. Pickrell, vice president of Texon Oil & Land Co., states Reagan County Purchasing Co. has a surplus of more than $3,800,000, most of which will be distributed shortly. This money was largely earned in former years, but no distribution has been made in the past.

Marland Oil Co. owns 60.87 per cent of Reagan County Purchasing Co. Through its subsidiaries and its interests in subsidiary and affiliated companies, Texon has a net interest of 23.14 per cent in Reagan County Purchasing Co. and the Texon companies will receive through this distribution about $1,000,-000.

Texon Oil & Land Co. of Texas, subsidiary of Texon, has made contracts for the coming year involving deliveries of between 7,500 and 10,500 bbls. daily of its Winkler County crude, Mr. Pickrell said. The company's production should exceed these commitments and further sales contracts may be negotiated, he added.

South Penn Oil Co.

The peculiar nature of South Penn Oil Co.'s production and refined products has given it a remarkable degree of earning power stability reflected in the relatively small decline in the company's earnings last year during a period of generally depressed conditions in the trade.

Results for 1927 showed net income of $1,727,774 after all charges, or $2.16 a share on the 800,000 outstanding shares of capital stock. This compares with $3,152,916, or $3.94 a share in 1926.

South Penn's production is confined to Pennsylvania, New York and West Virginia fields. Output totals about 8,-000 bbls. daily. Pennsylvania crude is especially adapted to production of lubricants, enabling the company to concentrate on this class of refined products. Relatively small bulk of lubricants in proportion to their value makes possible a national distribution of such products.

In 1926 South Penn acquired Pennzoil Co., with refining capacity of some 3,-000 bbls. of crude oil daily and a chain of gasoline distributing stations. The consolidation gave South Penn a more secure outlet for part of its crude oil production and assured Pennzoil a steady supply. Since the merger the refinery has been greatly expanded.

South Penn, in addition to its other activities, purchases all crude oil run by New York Transit, Southwest Pennsylvania Pipe Lines and Eureka Pipe Lines.

Company's balance sheet at the end of 1927 showed current assets of $14,-755,814 against current liabilities of $2,-566,807. Physical properties aggregated $21,765,964; securities of other companies, $12,126,734, and total assets $48,-689,328. There is no funded debt. Surplus was $26,122,521.

Cities Service Co.

A new issue of $50,000,000 of 5 per cent gold debentures of the Cities Service Co., due in 1958, was offered by a syndicate headed by Harris, Forbes & Co. in the East, and Halsey, Stuart & Co. in the West, and including the National City Co., Bonbright & Co., Inc.; E. H. Rollins & Sons, A. B. Leach & Co., Inc.; the Federal Securities Corp., the Pearsons-Taft Co. and Henry L. Doherty & Co.

The proceeds will be applied to the retirement of the funded debt and the retirement or acquisition of the funded debt or preferred stocks of subsidiary companies.

Upon giving effect to this financing and to the recent offers of additional common stock, the consolidated capitalization as of December 31, 1927, shows an outstanding funded debt, preferred stocks and minority common stocks of subsidiaries amounting to $352,406,179, $2,320,000 equipment trust certificates and $71,514,356 funded debt, followed by preferred and common stocks with an aggregate market value based on current quotations in excess of $375,000,000.

The consolidated balance sheet as of December 31, 1927, after this financing, will show net current assets in excess of $70,000,000, and total net assets, after deducting liabilities other than the funded debt of more than $290,000,000, or in excess of 400 per cent of such funded debt.

Richfield Oil

Richfield Oil Co. reports for quarter ended March 31, 1928, profit of $1,390,-517 after expenses, depreciation, depletion, etc., but before federal taxes, compared with profit of $738,014 in first quarter of 1927. Outstanding stock on December 31, last, was $6,458,500 (par $25) preferred and $29,232,325 (par $25) common stock.

Income account for quarter ended March 31, 1928, follows; Net earnings $2,578,443; depreciation, depletion, etc., $953,946; interest $233,980; profit before federal taxes $1,390,517.

Marland Oil Co.

The consolidated balance sheet of the Marland Oil Co. and subsidiary companies for the months ending March 31, follows:

Assets	Dec. 31, 1927	Mar. 31, 1928
Fixed assets	$103,294,413	$103,418,769
Less depr. and dep.	46,037,792	47,824,671
	$ 57,256,621	$ 55,594,098
Invest. and adv.	14,075,048	14,300,977
Deferred charges	2,992,569	3,326,473
Current assets:		
Cash	11,014,731	6,985,691
U. S. Gov. Sec.	7,271,016	11,261,650
Bills and accts. receivable	5,825,857	6,370,010
Inventories at lower of cost or market:		
Crude oil	8,066,877	7,242,544
Refined products	5,135,119	5,708,643
Inventory of materials and supplies	4,599,028	4,255,273
Misc. Accd. items	118,649	139,227
Total current assets	$42,031,277	$ 41,963,047
	$116,355,515	$115,183,594

Liabilities	Dec. 31, 1927	Mar. 31, 1928
Cap. and sur. equity:		
Shares of cap. stock authorized	2,400,000	2,400,000
Net equity—represented by 2,317,-225 shares Dec. 31, 1927; 2,317,-230 10/20 shares Mar. 31, 1928	$ 83,718,106	$ 81,841,359
Minority int.	19,191	18,916
Reserve for contng.	52,083	74,039
Serial 5½% gold notes	30,000,000	30,000,000
Current liabilities:		
Accts. payable	2,223,236	2,484,883
Misc. accd. items	342,899	764,367
Total current liab.	$ 2,566,135	$ 3,249,250
	$116,355,515	$115,183,594

Darby Petroleum

The Darby Petroleum Corp. for the quarter ended on March 31, reports a net income of $364,852 before depreciation and depletion, equivalent to 53 cents a share on the 388,073 shares outstanding. For the year ended on December 31, 1927, the net income was $972,949, equivalent to $1.07 a share earned on the same number of shares.

LIST OF ACTIVE PETROLEUM STOCKS

Stocks—	Par	Chgs. Quot. Apr. 30	Chgs. Quot. Apr. 23	1928 High	1928 Low	1927 High	1927 Low	1926 High	1926 Low
Amerada Corp.	..	36	35⅝	38	27½	37½	27⅝	32⅝	24⅝
Atlantic Refining, com.	100	139½	126	139½	95⅝	131⅝	107	128⅜	97
Barnsdall A	25	26⅛	24½	26⅞	21⅛	35½	20⅜	32½	23½
California Petroleum, com.	25	31¼	31⅛	31	24	32⅞	20	38⅛	30⅜
Houston Oil	100	153⅛	151	166¾	127	175⅝	60⅛	75	50¼
Independent Oil & Gas	..	30⅝	28½	31⅞	21¾	32¾	17⅝	34	20¼
Louisiana Oil	10	18⅝	15⅞	19¾	9⅝	18⅛	10½	19⅝	12
Maracaibo	..	22	18⅝	18⅛	12½	22⅜	12	27¾	18⅜
Marland	..	43¼	42⅜	44	33	58⅛	31	63⅜	41¼
Mid-Continent Petroleum	..	33	30⅜	33½	25½	39⅜	25½	41	25⅜
National Supply	50	104½	105½	110	90	95⅜	76	84⅞	55½
Oil Well Supply	25	52	30	41	30	44⅜	31¼	36	30
Pan American, B	50	53⅜	49¼	54⅝	37⅜	66⅜	45⅛	72⅜	56⅛
Pan American, Western B	..	27⅜	24⅛	28⅝	18¼	37⅞	16⅜	46	34
Phillips Petroleum	..	43⅝	43	44⅝	35¼	60¼	36½	54⅞	42⅛
Producers & Refiners	50	25½	23¼	26⅞	16	33⅞	16⅜	26	11
Pure Oil, com.	..	26	24⅞	27½	19	33½	25	31	25⅜
Royal Dutch, N. Y., sh.	13.40	52⅜	47⅜	53⅜	44⅜	54⅛	44¼	57⅜	49⅜
Shell Transport	10	46⅞	44	44	29⅜	49	41½	48⅛	42
Shell Union, com.	..	29⅜	27⅜	31	23¼	31⅜	24⅝	30⅞	24
Simms Petroleum	10	23⅞	23⅜	25½	18½	23⅞	14¼	25⅜	16½
Sinclair Consolidated	..	29⅝	27¼	30⅜	17½	22⅜	15½	24⅞	16⅜
Skelly Oil	25	33½	32	34	25	37⅜	24½	37½	27
Standard of California	25	63	60	63⅞	52	69⅜	50⅜	63½	54
Standard of New Jersey, com.	25	47⅜	44⅛	49	37⅜	41⅜	35⅛	46⅜	37½
Standard of New York	25	40¼	34	41½	28⅜	34⅛	29⅜	47½	30⅝
Sun Oil Co.	..	44⅜	42½	44⅜	31½	34⅜	30	41¼	30⅛
The Texas Company	25	62⅜	59½	63⅜	50	59	45	58	48
Texas Pacific Coal & Oil	10	16⅞	14⅞	17⅝	12½	18⅞	12	19½	12½
Tide Water Associated	..	20½	18⅜	20⅜	14⅜	19⅛	15⅜	21	17
Transcontinental	..	9⅞	8⅝	10⅛	7⅛	10⅜	3⅜	5½	3
Union Oil of California	25	55⅜	54	57	42⅜	58⅛	39⅜	53⅜	37¼
Union Tank, com.	100	124⅜	120	125	119¼	126	94	120⅜	84¼
White Eagle Oil & Refining Co.	..	25⅜	23¼	25⅜	20⅛	27½	21⅜	29⅜	25⅛
Standard Oils									
Anglo-American	£1	19⅜	19¼	22⅜	18½	21⅝	17⅛	19⅜	16½
Borne Scrymser	25	*50	53	56	50	69	49½	75	65
Buckeye Pipe Line	50	*73¼	75	70	58	59	45	69½	42
Chesebrough Manufacturing Co.	25	*150	134	149¾	117¼	126	76½	81¼	63
Continental	10	19⅞	18⅜	23	16	22⅝	16½	25⅞	10¼
Cumberland Pipe Line	100	103¼	102	105	89	‡137	90	137	102
Eureka Pipe Line	100	..	78	72¾	64½	66	47	43¾	43
Galena Signal, com.	100	11	10	7⅝	4	13½	4½	32⅛	9⅜
Humble Oil & Refining Co.	25	81¼	69	84⅞	59½	67¾	54	99⅝	52
Illinois Pipe Line	100	211	206	214½	176½	181½	123⅜	144	131
Imperial Oil	..	64⅝	62⅝	65¼	56⅞	64⅜	37⅜	39⅜	32¼
Indiana Pipe Line	50	86	84½	89½	75	93	61	68	52¼
International Petroleum Co.	10	42¼	40⅛	43	35	36⅜	28⅛	35¼	28⅜
National Transit Co.	12.50	30¼	30	30½	20½	23¼	13¼	30⅜	27¼
New York Transit	100	60	56	54	38½	42	31⅜	61½	27¼
Northern Pipe Line	100	121	120	120¾	94	96	70	80½	64
Ohio Oil Co.	25	66⅞	64	66½	58½	66	52	67⅜	55⅜
Penn-Mex Fuel	25	78	78	81	33	36⅛	12	24¼	15
Prairie Oil & Gas	25	55	52¼	56	47⅜	55½	45⅝	60¼	49
Prairie Pipe Line	100	217	216	224	184	189¼	132	137½	122½
Solar Refining Co.	100	*172	180	178	175	‡201½	178	212	184½
South Penn Oil	25	52	49½	52	36⅜	41½	34½	50	30
Southwest Pa. Line	100	*81	69	88⅜	70	78	55½	56	47½
Southern Pipe Line	50	*32	33	33½	21	39	18½	27	34
Standard of Indiana	25	82¼	78½	83¾	70⅝	80½	64⅝	70½	60½
Standard of Kansas	25	24⅞	24	27⅝	15	20⅞	15⅝	36½	26½
Standard of Kentucky	25	133⅜	132	136½	122¼	125½	111⅜	134⅝	107
Standard of Nebraska	25	45	45	45⅛	40½	49½	43	51⅛	42
Standard of Ohio, com.	100	77¼	76	79⅝	72	81½	72	362	192½
Swan & Finch, com.	25	18	20	17⅝	16½	21	11½	21	18
Vacuum Oil	25	155½	148½	154	136⅜	147	95⅛	109⅜	94⅛
Miscellaneous									
Gulf Oil Corp of La.	25	128½	116	130	101⅛	116	86¼	95	82½

*Bid, no sales. ‡Old stock. †New stock. ‖Ex-dividend.
Quotations furnished by W. J. Wollman & Co.

The Oil and Gas Journal weekly average price of 20 representative petroleum stocks listed on the New York Exchange and New York Curb was as follows:

Apr. 30	71.31	Mar. 26	64.48	Feb. 20	60.77
Apr. 23	68.76	Mar. 19	63.79	Feb. 13	61.02
Apr. 16	69.43	Mar. 12	62.07	Feb. 6	62.03
Apr. 9	67.21	Mar. 5	62.56	Jan. 30	62.75
Apr. 2	65.28	Feb. 27	62.54	Jan. 23	63.49

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

SUBSTANCES FOR REDUCING CORROSION

What substances are considered to be suitable for correcting the corrosive action of sulphur crudes? If it is possible to show how these compare it would be appreciated.—W. R. H.

Our investigations have developed the fact that all so-called sulphur crudes are not equally corrosive. It appears that the kind of sulphur and the presence of acid forming salts have much to do with this action. Some sulphur-bearing crudes contain chlorides which in the presence of water cause the formation of hydrochloric acid, and these crudes are highly corrosive.

Doctor Egloff describes in Combating Corrosion in Refineries, The Oil and Gas Journal, December 15, 1927, page 34, the use of several substances for reducing corrosion. He states that the quantity of sulphur present does not determine the extent of the corrosion. Crude oils such as Luling with 0.7 per cent sulphur corrode to a greater extent than Somerset, which contains 1.62 per cent. Injection of ammonia, ammonium hydroxide, hydrated lime, sodium hydroxide, sodium carbonate, retard and reduce corrosion. Ammonia neutralizes hydrochloric acid and some sulphur compounds. Hydrated lime is effective in cutting down corrosion 50 per cent or more in some cases and with other oils is not so effective. Lime has an additional use in that it reduces the difficulty of coke removal from the tubes and stills.

Caustic soda, or sodium hydroxide, is not so good as lime, because it reacts with the steel, causes embrittlement, and produces a denser coke which is difficult to remove.

Aluminum and aluminum paint serves to reduce hydrogen sulphide corrosion when used as tank roofs, for example, look-boxes, coverings for pipe, etc. Chrome iron tubes have stood up well. The special alloys containing chromium and nickel serve very well where the additional expense is not too great. Small parts, especially valves and instrument parts when composed of the special alloys may be used to advantage.

Chromium plating of tubes internally has not worked out in a satisfactory manner under service conditions. The flue cleaners have a tendency to cut through the plating and there is a tendency for the plate to peel off. Tubes which were externally plated withstood action from the products of combustion very well. Thick walled calorized tubes are apparently giving satisfaction in some distillation units.

RAYON PROCESSING OILS

I would appreciate your advising what rayon processing oils used by silk manufacturers are and whether they are blended oils or not?—R. A. C.

Rayon, which is often called artificial silk, is a fiber made from purified cotton linters or wood paper pulp.

The rayon is oiled to condition it for the knitting or weaving process by penetrating the cellulose structure of the fiber with oil, thus keeping out water, which lowers its tensile strength; affording internal lubrication between individual fibers, the oil acting as a protective film, when in the knitting or weaving process the fibers tend to rub, and making the rayon pliable and more easily workable in its passage through the machines.

The use of oils in the manufacture of rayon is described in two articles in the Textile World, March 13, 1926, "The Oiling of Rayon," by E. R. Woodward, page 51, and October 9, 1926, "Oils and Oil Products in Rayon Processes," by H. C. Roberts, page 57.

After the rayon is knitted, woven or braided, the lubricant has served its purpose and must be absolutely removed before drying. It is for this purpose that the material is passed through the scouring operation.

Pieces of white knitted rayon material were soaked in white neutral oil of 142 seconds Saybolt viscosity at 100 degrees Fahrenheit. The pieces were then wrung out and washed with water at 140 degrees Fahrenheit, some with oilive oil soap and the others with ordinary flake washing soap. They washed out nicely, left absolutely no stain and felt much softer afterwards.

Compounded oils, which are made up by mixing at the right temperature mineral oils with vegetable or animal oils, are being used quite generally in the treating of rayon. These require the addition of an alkali in the scouring-out process. Sodium triphosphate is a mild emulsifying alkali much used.

Some authorities favor those special oils which are strong emulsifiers. In the case of rayon made by the acetate process, it has been found best to use an emulsion made up with equal parts of soluble oil and water. Sulphonated oils have similar action.

It is very important to avoid using an oil which contains any free sulphur as this is not removed in the scouring process and even a trace causes streaks in the finished material, besides giving trouble in dyeing.

RECOVERY OF DOCTOR SOLUTION

What is the operation for the recovery of used doctor solutions by air treatment? Is this kind of recovery practiced by many refineries? Any details would be appreciated.—S. L. N.

The recovery or revivification of used or spent doctor solution by means of blowing air through the solution is the result of chemical action. The black substance suspended in the solution is lead sulphide which is slowly oxidized by the oxygen in the air to the sulphite, then to the thiosulphate, and finally to lead sulphate. In the presence of caustic soda there is some sodium sulphate formed and the sodium plumbite, or as it is commonly called doctor solution.

The operation may be outlined. As the used doctor solution flows from the treating unit there is always some excess caustic soda. This goes to a tank which is equipped with steam coils and perforated coils through which compressed air is introduced while the solution is held at a temperature just below the boiling point of water. The air serves in addition as a means for thorough agitation of the heavy solution or mixture. The operation is complete when the solution becomes clear; sometimes there will be nothing more than a trace of color but in most cases there is a slight brownish color.

There are a number of refiners that restore the doctor solution by the air process and report that in some respects it acts better than the normal doctor solution for the separation and settling of the black lead sulphide. The sweetening advances rapidly and to the same degree so that the finished product passes the doctor test and meets the copper strip corrosion test. When properly completed the revived solution does not impart any color to the gasoline treated.

INCREASING PRODUCTION BY FLOODING

What conditions are considered when determining the possibilities for increasing production by flooding with water?—G. M. W.

Flooding has been successfully applied in the Bradford district, Pennsylvania, where considerable skill has been shown in this particular development. The spacing of wells, drilling ahead of flood waters, conditions of the sand with respect to physical condition and quantity of oil produced are important factors. Interpretation of the data should be made by an expert.

Paul D. Torrey presented some conclusions on this subject before the American Institute of Mining and Metallurgical Engineers, New York, February 22, 1928. See The Oil and Gas Journal, February 23, 1928, page 155. The complete papers, Tech. Pub. 38 and 39, may be obtained from the society, 29 West Thirty-ninth Street, New York.

Possibly the most widely used criteria for determining the value of an unflooded property are its natural production history and the results obtained from flooding on adjoining areas. Properties on which the wells had a large initial production was small or the natural decline of production rapid. A large initial production combined with a slow decline indicates a fairly permeable sand of uniform porosity and saturation, which is a most favorable condition for successful flooding. Where the initial production of wells was large but the decline in natural production rapid, it is probable that a part of the sand is exceptionally permeable, and the rest of it is relatively tight. This one part or horizon could not maintain a large production for any length of time, consequently the oil in it is practically exhausted within a short time while large volumes of oil remain in the tighter parts of the sand. Such a condition is somewhat unfavorable for flooding because at least part of the water will naturally follow the line of least resistance through the more permeable part of the sand, where the extraction of oil has been much more complete, leaving a smaller amount of water to affect the rest of the sand, where less oil has been removed and the present saturation is greater. Where the initial production was small but a steady production has been maintained, it is probable that the sand is uniformly tight—a condition that would tend to retard flood movement. Low-porosity sands are being successfully flooded by using force pumps to apply additional water pressure.

DEPRECIATION BECAUSE OF HIGH SULPHUR CRUDE

We recently began the operation of a topping plant using Winkler County crude. In figuring operating expense I am in doubt as to the proper amount of depreciation to include because of the effect of this crude on stills, tanks, lines, etc. What rate should we use, considering possible life of the field, sulphur content of the crude, and which would be allowed as deduction for tax purposes?—C. R. McC.

We have not had enough experience with the Winkler County crude to enable us to accurately determine the extent of actual damage to refinery equipment. There are many factors to be considered in addition to the fact that this crude contains an excessive quantity of sulphur. The type of still, that is, whether they are ordinary shell stills or pipe stills should be known. Are you giving the crude any special treatment or are you introducing any neutralizing substance into the refining equipment? You are aware of the fact that ammonia, lime, caustic soda, certain metallic oxides and other substances have been used for reducing the corrosive action of sulphur crude. When corrected by such means there would, of course, be less corrosion than if no outside agent were introduced.

The character of the metal used in tubes and stills also has a bearing. It is recognized that so-called special alloys will resist sulphur corrosion. Of course chromium and nickel alloys are too expensive for large parts but they may be used to advantage for connections and valves.

It is my understanding that a depreciation allowance for income tax purposes on topping plants may vary from 15 to 27½ per cent and it would be reasonable to set up a larger percentage when running a high sulphur oil. If you will address the Engineering Department of the Income Tax Bureau at Washington and set all facts which you may have before them, they will refer the matter to the field department, then a resident engineer will call on you for a local conference. After a proper discussion a rate will be established. It appears that this is the safest procedure for you to follow.

FORM FOR DOMESTIC FUEL OIL SPECIFICATIONS

Will you kindly supply me with a form which will be suitable for use in the statement of specifications for domestic fuel oils?—R. G.

The form below is the A.S.T.M. form proposed for use with Class B fuel oils.

Scope—These specifications refer to oils generally known in the trade as light fuel oils, intended for general industrial consumption. Properties—The oil shall conform to the following requirements:

a—Flash Point, Pensky-Martens Closed Tester, Minimum ..... F.
b—Water and sediment, maximum.. .....per cent
c—Pour Point, maximum ..... F.
d—Viscosity, Saybolt Universal at 100 F. Maximum ..... seconds
e—Carbon residue, maximum....per cent

Methods of Testing—The properties enumerated in these specifications shall be determined in accordance with the methods of test of the American Society for Testing Materials.

MORE WELLS COMPLETED AND MORE WELLS DRILLING IN APRIL

One hundred more wells were completed in the fields east of California in April than in March, but the initial production, which totaled 391,841 bbls., was 22,186 bbls. less than that in March. Eighty-seven more dry holes were drilled and 11 more gas wells leaving about the same number of completed oil wells in both months. Drilling operations showed a continued increase. The March report showed an increase of 51 in rigs and wells drilling over February while the April report shows a further increase of 71 in new operations.

SUMMARY OF ALL FIELDS
Wells completed

Field—	Comp.	Prod.	Dry	Gas
Eastern	278	3,730	26	46
Central Ohio	15	35	4	9
Lima	12	530	3	2
Indiana	7	78	5	0
Michigan	13	632	4	1
Illinois	9	47	5	1
Kentucky	125	3,675	43	4
Tennessee	9	495	1	2
Mississippi	1	0	1	0
Oklahoma	378	59,762	146	67
Alabama	1	0	1	0
Kansas	116	18,834	45	8
Texas Panhandle	38	9,692	12	11
North Central Texas	346	14,588	165	14
East Central Texas	7	0	7	0
West Texas	71	227,670	21	0
Southwest Texas	55	858	23	18
East Texas	10	0	3	7
Louisiana	56	3,868	21	29
Arkansas	12	3,440	4	0
Wyoming	9	802	1	0
Montana	28	5,466	8	7
Colorado	14	515	10	0
New Mexico	5	430	3	1
Gulf Coast	127	36,634	55	2
Utah	4	0	2	2
Total April	1,746	391,841	619	231
Total March	1,646	414,027	532	220
Difference	100	22,186	87	11

Rigs and Wells Drilling

Field—	Rigs	Drg.	Ttl.
Eastern	100	318	418
Central Ohio	29	62	91
Lima	8	18	26
Indiana	1	41	42
Illinois	10	33	43
Michigan	1	16	17
Kentucky	8	161	169
Tennessee	1	14	15
Mississippi	2	22	24
Alabama	0	6	6
Florida	0	13	13
Oklahoma	132	661	793
Kansas	60	207	267
Texas Panhandle	39	125	164
East Central Texas	0	11	11
West Texas	107	334	441
North Central Texas	79	426	505
Southwest Texas	26	128	154
East Texas	3	16	19
North Louisiana	45	111	156
Arkansas	34	50	84
Wyoming	17	122	139
Montana	34	90	124
Colorado	16	93	109
Utah	3	26	29
New Mexico	15	78	93
Gulf Coast	36	150	186
Total April	806	3,332	4,138
Total March	796	3,271	4,067
Difference	10	61	71

KANSAS FIELDS
Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Butler	3	245	1	0
Chautauqua and Elk	10	65	7	1
Cowley	15	160	8	6
Greenwood	24	1,715	8	1
Marion	11	725	7	0
Sumner	25	15,463	3	1
Miscellaneous	28	461	11	0
Total April	116	18,834	45	8
Total March	115	13,191	36	16
Difference	1	5,643	9	8

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Butler	7	15	22
Cowley	5	23	28
Elk	1	13	14
Greenwood	12	22	34
Marion	6	19	25
Russell	2	15	17
Sumner	10	32	42
Woodson	1	9	10
Miscellaneous	16	59	75
Total April	60	207	267
Total March	68	195	263
Difference	8	12	4

OKLAHOMA FIELDS
Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carter	10	1,150	0	0
Creek	37	2,077	21	4
Grady	20	300	4	14
Kay	21	0	14	7
Muskogee	50	2,282	27	4
Okfuskee	9	215	3	3
Okmulgee	23	114	6	10
Osage	31	11,163	7	1
Pontotoc	26	1,425	11	5
Pottawatomie	10	9,621	1	0
Seminole	42	23,434	13	4
Stephens	32	5,672	12	2
Tulsa	18	300	7	4
Wagoner	7	5	6	0
Miscellaneous	42	2,604	14	9
Total April	378	59,762	146	67
Total March	288	37,562	86	50
Difference	90	22,200	60	17

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Carter	4	27	31
Creek	21	67	88
Garfield	0	8	8
Grant	0	14	14
Grady	6	17	23
Hughes	1	8	9
Kay	7	18	25
Lincoln	0	5	5
Logan	0	25	25
Muskogee	5	50	55
Okfuskee	8	24	32
Okmulgee	11	36	47
Osage	19	27	46
Pawnee	4	13	17
Payne	2	5	7
Pontotoc	3	22	25
Pot awatomie	1	53	54
Seminole	18	110	128
Stephens	15	42	57
Tulsa	1	10	11
Wagoner	1	5	6
Miscellaneous	5	75	80
Total April	132	661	793
Total March	151	655	806
Difference	19	6	13

EAST CENTRAL TEXAS
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Anderson	1	0	1	0	0	1	1
Camp	0	0	0	0	0	1	1
Cherokee	0	0	0	0	0	1	1
Falls	0	0	0	0	0	1	1
Henderson	0	0	0	0	0	1	1
Limestone	4	0	4	0	0	4	4
Navarro	1	0	1	0	0	1	1
Smith	1	0	1	0	0	1	1
Total April	7	0	7	0	0	11	11
Total Mar.	5	125	4	0	0	8	8
Difference	2	125	3	0	0	3	3

TEXAS PANHANDLE
Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	S. D.	Ttl.
Carson	0	6	0	6
Gray	15	49	5	69
Hutchinson	8	15	8	31
Wheeler	6	5	3	14
Miscellaneous	10	13	21	44
Total April	39	88	37	164
Total March	34	96	41	170
Difference	5	7	4	6

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carson	2	0	0	2
Dallam	1	0	1	0
Gray	22	9,667	4	4
Hale	1	0	1	0
Hartley	1	0	1	0
Hemphill	1	0	1	0
Hutchinson	1	25	0	0
Oldham	1	0	1	0
Potter	2	0	1	1
Sherman	1	0	1	0
Wheeler	5	0	1	4
Total April	38	9,692	12	11
Total March	45	4,925	21	13
Difference	7	4,767	9	2

WEST TEXAS
Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Brewster	1	0	1	0
Crane	4	487	2	0
Crockett	3	620	1	0
Concho	1	0	1	0
Fisher	1	165	0	0
Garza	1	0	1	0
Howard	5	200	0	0
Jones	2	220	0	0
Mitchell	1	0	1	0
Pecos	15	138,619	6	0
Reeves	1	0	1	0
Runnels	3	40	2	0
Reagan	4	470	2	0
Taylor	1	0	1	0
Tom Green	1	0	1	0
Winkler	27	86,849	1	0
Total April	71	227,670	21	0
Total March	98	285,981	28	3
Difference	27	58,311	7	3

NORTH CENTRAL TEXAS
Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Archer	50	2,732	24	0
Brown	62	3,701	23	4
Callahan	3	0	7	1
Clay	3	18	1	0
Coleman	16	20	11	2
Comanche	5	12	2	3
Cooke	3	18	2	0
Denton	2	0	2	0
Eastland	18	263	13	1
Foard	1	0	1	0
Grayson	1	0	1	0
Jack	9	60	7	0
McCulloch	1	0	1	0
Montague	13	259	2	0
Palo Pinto	1	0	1	0
Shackelford	24	2,079	10	0
Stephens	6	65	4	1
Throckmorton	1	4	0	0
Wichita	37	990	11	0
Wilbarger	20	2,763	6	1
Young	65	1,604	36	0
Total April	346	14,588	165	14
Total March	363	15,204	165	15
Difference	17	616	0	1

Summary of Rigs and Wells Drilling

North Texas—	Rigs	Drg.	S. D.	Ttl.
Crane	1	5	2	8
Crockett	10	9	5	24
Howard	7	15	10	32
Jones	1	4	3	8
Mitchell	0	2	2	4
Pecos	20	22	11	53
Reagan	1	6	16	23
Runnels	3	8	6	17
Upton	3	4	4	11
Winkler	45	112	8	165
Miscellaneous counties	16	33	47	96
Total April	107	220	114	441
Total March	109	226	87	422
Difference	2	6	27	19

North Central Texas—

Archer	3	24	3	30
Brown	16	40	20	76
Callahan	3	7	7	17
Coleman	4	32	22	58
Cooke	2	6	2	10
Eastland	2	21	7	30
Jack	1	5	9	15
Montague	6	6	2	13
Palo Pinto	1	4	3	8
Shackelford	1	18	3	22
Stephens	1	10	8	19
Throckmorton	0	3	0	3
Wichita	6	25	2	33
Wilbarger	19	43	5	67
Young	13	39	18	70
Miscellaneous counties	2	9	23	34
Total April	79	292	134	505
Total March	88	306	127	521
Difference	9	14	7	16
Grand total N. Central and W. Texas, Apr.	186	512	248	946
Grand total N. Central and W. Texas, Mar.	197	532	214	943
Difference	11	20	34	3

SOUTHWEST TEXAS FIELDS
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Mirando	20	195	9	5	10	24	34
Luling	4	200	..	..	0	3	3
Dale	4	395	..	..	0	1	1
Kingsville	3	..	1	2	2	1	3
Refugio	6	..	0	6	1	6	7
Somerset	3	18	..	..	3	1	4
Adams	..	..	..	..	0	1	1
White Point	..	..	1	0	3	6	9
Miscellaneous	15	50	12	1	17	85	102
Ttl. Apr.	55	858	23	14	36	128	164
Ttl. Mar.	30	707	19	4	27	118	145
Difference	25	151	4	10	9	10	19

GULF COAST
Summary of Field Operations for April

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Barbers Hill	1	40	0	0	0	3	3
Batson	3	205	0	0	1	2	3
Big Creek	3	300	2	0	1	2	3
Blue Ridge	10	6,825	1	0	4	7	11
Boling	22	974	17	0	*5	8	13
Damon	1	45	0	0	0	2	2
Edgerly, La.	1	5	0	0	1	6	7
Goose Crk.	1	108	1	0	0	4	4
Hackb'y, La.	4	1,450	2	0	0	5	5
High Island	1	250	0	0	1	3	4
Hull	6	2,470	1	1	0	7	7
Jennings, La.	5	313	1	0	2	4	6
Lockp'rt, La.	1	308	0	0	3	7	10
Markham	1	0	1	0	0	0	0
Nash	3	1,325	1	0	0	2	2
Orange	5	934	2	0	0	9	9
Orchard	0	0	0	0	0	3	3
Pierce Jct.	9	8,750	2	0	3	14	17
Saratoga	0	0	0	0	0	3	3
Sour Lake	3	560	0	0	1	2	3
S. Liberty	6	460	2	0	1	10	11
Spindletop	16	6,584	5	0	1	12	13
Starks	0	0	0	0	0	1	1
Sulphur	2	2,600	0	0	1	1	2
Vinton	1	75	0	0	1	3	4
W. Columbia	1	320	0	0	1	1	2
Miscellaneous	22	1,733	17	1	9	31	40
Ttl. Apr.	127	36,634	55	2	36	150	186
Ttl. Mar.	124	44,287	41	1	30	165	195
Difference	3	7,653	14	1	6	15	9

*Does not include number of shallow sulphur tests.

KENTUCKY FIELDS
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	5	11	1	0	0	4	4
Allen	1	3	0	0	0	6	6
Barren	27	148	16	0	0	20	20
Ohio	44	2,108	12	0	1	33	34
Daviess	24	1,197	5	1	5	43	48
McLean	2	9	2	0	0	6	6
Hancock	6	30	4	0	0	3	3
Webster	2	25	0	1	0	0	0
Henderson-Union	1	0	0	1	0	2	2
Muhlenburg	0	0	0	0	0	1	1
Breckenridge	0	0	0	0	0	2	2
Hopkins	0	0	0	0	0	1	1
Butler	0	0	0	0	1	3	4
Cumberland-Monroe	1	0	1	0	0	1	1
Clinton	1	5	0	0	0	0	0
Simpson	0	0	0	0	0	1	1
Wayne	4	66	1	0	0	6	6
Estill	2	3	1	0	0	8	8
Lee-Owsley	0	0	0	0	0	2	2
Wolfe	2	50	0	0	1	4	5
Johnson-Magoffin	1	20	0	0	0	7	7
Floyd-Knott	0	0	0	0	0	3	3
Knox	1	0	0	1	0	3	3
Elliott	1	10	0	0	0	1	1
Clay	0	0	0	0	0	1	1
Total April	125	3,675	43	4	8	161	169
Total Mar.	101	3,541	27	3	6	164	170
Difference	24	134	16	1	2	3	1

NORTH LOUISIANA
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Bienville	1	0	1	0	0	2	2
Bossier	14	55	2	10	5	18	23
Caddo	8	155	4	1	6	21	27
Caldwell	0	0	0	0	0	1	1
Catahoula	1	0	1	0	0	2	2
Claiborne	1	0	1	0	0	1	1
DeSoto	6	0	5	1	1	4	5
E. Carroll	0	0	0	0	0	2	2
Franklin	1	0	1	0	0	1	1
Grant	0	0	0	0	0	3	3
LaSalle	1	0	1	0	0	2	2
Lincoln	1	0	1	0	0	0	0
Madison	0	0	0	0	0	1	1
Morehouse	2	0	1	1	2	4	6
Natchitoches	0	0	0	0	0	1	1
Ouachita	7	0	1	6	5	6	11
Rapides	0	0	0	0	0	3	3
Richland	4	0	0	4	5	14	19
Sabine	0	0	0	0	1	4	5
Union	3	0	3	1	4	3	7
Webster	6	3,658	0	6	13	18	31
Winn	0	0	0	0	2	0	3
Ttl. Apr.	56	3,868	21	29	45	111	156
Ttl. Mar.	66	2,590	28	32	47	107	154
Difference	10	1,278	7	3	2	4	2

*Gas production: Bossier Parish, 229,336,000 feet; Caddo, 11,172,000 feet; DeSoto, 2,000,000 feet; Morehouse, 28,282,000 feet; Ouachita, 27,000,000 feet; Richland, 167,438,000 feet; Union, 5,890,000 feet; Webster, 57,824,000 feet; total, 528,942,000 feet.

EAST TEXAS

	Comp.	Prod.	Dry	*Gas	Rigs	Drg.	Ttl.
Cass	0	0	0	0	0	1	1
Harrison	1	0	1	0	0	5	5
Marion	0	0	0	0	0	1	1
Panola	9	0	2	7	3	8	11
Shelby	0	0	0	0	0	1	1
Ttl. Apr.	10	0	3	7	3	16	19
Ttl. Mar.	19	5	5	13	6	15	21
Difference	9	5	2	6	3	1	2

*Gas production: Panola County, 30,938,000 feet.

MISSISSIPPI

	Comp.	Prd.	Dry	Gas	Rgs	Drg.	Ttl.
Alcorn	0	0	0	0	0	1	1
Chickasaw	0	0	0	0	0	1	1
Claiborne	0	0	0	0	0	2	2
Hines	0	0	0	0	0	1	1
Itawamba	0	0	0	0	1	0	1
Jackson	0	0	0	0	0	1	1
Jasper	0	0	0	0	0	1	1
Lauderdale	0	0	0	0	1	1	2
Lee	1	0	1	0	0	2	2
Monroe	1	0	1	0	0	7	7
Rankin	0	0	0	0	0	1	1
Simpson	0	0	0	0	0	1	1
Stone	0	0	0	0	0	1	1
Washington	0	0	0	0	0	1	1
Webster	0	0	0	0	0	1	1
Total	1	0	1	0	2	22	24

ALABAMA

	Comp.	Prd.	Dry	Gas	Rgs	Drg.	Ttl.
Franklin	0	0	0	0	0	1	1
Houston	0	0	0	0	0	1	1
Lawrence	1	0	1	0	0	2	2
Marion	0	0	0	0	0	1	1
Total	1	0	1	0	0	5	5

WYOMING
Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Salt Creek	4	377	0	0	3	14	17
Albany Co.	0	0	0	0	0	1	1
Big Horn	0	0	0	0	4	2	6
Carbon	0	0	0	0	0	7	7
Converse	0	0	0	0	2	3	5
Fremont	0	0	0	0	0	8	8
Goshen	0	0	0	0	0	1	1
Hot Springs	0	0	0	0	0	4	4
Johnson	0	0	0	0	0	3	3
Lincoln	0	0	0	0	1	0	1
Natrona	2	200	0	0	1	3	4
Niobrara	1	200	0	0	3	3	6
Park	1	25	0	0	1	32	33
Platte	0	0	0	0	0	2	2
Sweetwater	0	0	0	0	0	7	7
Sublet	1	0	1	0	1	20	21
Washakie	0	0	0	0	0	2	2
Weston	0	0	0	0	0	2	2
Uinta	0	0	0	0	1	8	9
Total April	9	802	1	0	17	122	139
Total March	10	1,580	1	0	18	124	142
Difference	1	778	0	0	1	2	3

COLORADO
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Boulder	2	0	2	0	0	1	1
Fremont	7	285	5	0	1	27	28
Jackson	0	0	0	0	1	5	6
Larimer	1	150	0	0	2	9	11
Las Animas	0	0	0	0	0	4	4
Moffat	0	0	0	0	7	10	17
Rio Blanco	0	0	0	0	1	3	4
Routt	1	80	0	0	2	6	8
Miscl.	3	0	3	0	2	28	30
Total April	14	515	10	0	16	93	109
Total March	11	1,604	6	0	16	81	97
Difference	3	1,089	4	0	0	12	12

NEW MEXICO
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Chaves	0	0	0	0	2	5	7
Curry	0	0	0	0	0	4	4
De Baca	0	0	0	0	0	2	2
Eddy	2	430	1	0	4	11	15
Guadalupe	0	0	0	0	0	3	3
Lea	0	0	0	0	4	11	15
McKinley	1	0	1	0	0	9	9
San Juan	2	0	1	1	4	18	22
Torrance	0	0	0	0	0	6	6
Miscl.	0	0	0	0	1	9	10
Total April	5	430	3	1	15	78	93
Total March	6	85	3	1	14	86	100
Difference	1	345	0	0	1	8	7

UTAH
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total April	4	0	2	2	3	26	29
Total March	0	0	0	0	2	29	31
Difference	4	0	2	2	1	3	2

CENTRAL OHIO FIELDS
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Knox	1	0	0	1	0	1	1
Ashland	6	20	2	3	11	19	30
Medina	0	0	0	0	3	8	10
Loraln	0	0	0	0	1	5	6
Wayne	2	0	1	1	3	6	9
Holmes	1	0	1	0	6	1	7
Coshocton	1	0	0	1	2	2	4
Cuyahoga	2	15	0	2	0	8	8
Guernsey	0	0	0	0	0	0	0
Portage	0	0	0	0	1	0	1
Starke	0	0	0	0	0	1	1

Richland	0	0	0	0	0	1	1
Carroll	0	0	0	0	0	1	1
Summit	0	0	0	0	0	1	1
Lawrence	0	0	0	0	0	1	1
Gallia	1	0	0	1	3	2	5
Total April	15	35	4	9	29	62	91
Total Mar.	27	269	12	7	26	58	84
Difference	12	225	8	2	3	4	7

ILLINOIS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	3	0	3	0	0	0	0
Cumberland	0	0	0	0	0	1	1
Crawford	2	2	0	1	1	3	4
Lawrence	1	35	0	0	0	4	4
Wabash	2	10	1	0	0	2	2
Marshall	1	0	1	0	0	0	0
Macon	0	0	0	0	0	1	1
Madison	0	0	0	0	0	2	2
Shelby	0	0	0	0	0	1	1
St. Clair	0	0	0	0	0	1	1
Jefferson	0	0	0	0	0	1	1
Total April	9	47	5	1	1	16	17
Total Mar.	8	116	1	1	2	16	18
Difference	1	69	4	0	1	0	1

LIMA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	2	40	1	0	3	1	4
Hancock	1	0	0	1	0	2	2
Allen	2	35	0	0	2	1	3
Auglaize	0	0	0	0	0	5	5
Mercer	1	15	0	0	0	3	3
Van Wert	0	0	0	0	0	1	1
Seneca	4	500	1	0	2	3	5
Lucas	0	0	0	0	0	1	1
Shelby	1	0	1	0	0	1	1
Hardin	0	0	0	0	1	0	1
Darke	1	0	0	1	0	0	0
Total April	12	590	3	2	8	15	26
Total Mar.	11	214	1	1	5	22	27
Difference	1	376	2	1	3	4	1

MICHIGAN FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Muskegon	10	960	2	1	6	10	16
Sag'naw	1	0	1	0	0	1	1
Gratiot	1	0	1	0	0	2	2
Monroe	1	72	0	0	1	3	4
Shiawassee	0	0	0	0	0	1	1
Crawford	0	0	0	0	0	1	1
Charlevoix	0	0	0	0	0	1	1
Roscommons	0	0	0	0	0	1	1
Isabelle	0	0	0	0	1	0	1
Sanilac	0	0	0	0	0	1	1
Newago	0	0	0	0	0	1	1
St. Clair	0	0	0	0	0	4	4
Van Buren	0	0	0	0	1	1	2
Mason	0	0	0	0	0	1	1
Oakland	0	0	0	0	0	1	1
Washtenaw	0	0	0	0	1	0	1
Alpena	0	0	0	0	0	1	1
Ottawa	0	0	0	0	0	1	1
Livingstone	0	0	0	0	0	2	2
Total April	13	632	4	1	10	33	43
Total Mar.	6	30	4	1	6	21	27
Difference	7	602	0	0	4	12	16

TENNESSEE

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clay	8	395	1	2	1	12	13
Jackson	1	100	0	0	0	2	2
Total April	9	495	1	2	1	14	15
Total Mar.	9	78	4	1	0	15	15
Difference	0	417	3	1	1	1	0

INDIANA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wells	0	0	0	0	0	1	1
Jay	0	0	0	0	0	2	2
Adams	1	8	0	0	0	0	0
Grant	0	0	0	0	0	2	2
Huntington	0	0	0	0	0	1	1
Randolph	1	0	1	0	0	1	1
Gibson	1	70	0	0	0	5	5
Pike	2	0	2	0	0	3	3
Daviess	1	0	1	0	0	2	2
Sullivan	1	0	1	0	0	6	6
Vigo	0	0	0	0	1	4	5
Knox	0	0	0	0	0	1	1
Dubois	0	0	0	0	0	1	1
Benton	0	0	0	0	0	1	1
Fountain	0	0	0	0	0	1	1
Martin	0	0	0	0	0	1	1
Monroe	0	0	0	0	0	1	1
Bartholomew	0	0	0	0	0	1	1
Miami	0	0	0	0	0	1	1
White	0	0	0	0	0	1	1
Montgomery	0	0	0	0	0	1	1
Wabash	0	0	0	0	0	1	1
Greene	0	0	0	0	0	1	1
Henry	0	0	0	0	0	1	1
Spencer	0	0	0	0	0	1	1
Total April	7	78	5	0	1	41	42
Total Mar.	13	143	5	3	0	36	36
Difference	6	65	0	3	1	5	6

ARKANSAS

	Comp.	Prod.	*Gas	Rigs	Dlg	Ttl
Ashley	0	0	0	0	1	0	1
Bradley	0	0	0	0	0	2	2
Chicot	0	0	0	0	1	0	1
Clark	0	0	0	0	0	2	2
Clay	0	0	0	0	0	1	1
Columbia	0	0	0	0	1	3	4
Dallas	0	0	0	0	0	1	1
Faulkner	0	0	0	0	0	1	1
Franklin	0	0	0	0	2	1	3
Garland	0	0	0	0	0	1	1
Grant	0	0	0	0	0	1	1
Jackson	0	0	0	0	0	1	1
Lincoln	0	0	0	0	0	1	1
Little River	0	0	0	0	0	1	1
Logan	0	0	0	0	0	1	1
Miller	0	0	0	0	0	2	2
Nevada	1	0	1	0	1	3	4
Ouachita	4	188	0	0	2	4	6
Union*	7	3,252	3	0	26	24	50
Total April	12	3,440	4	0	34	50	84
Total March	10	188	4	0	14	51	65
Difference	2	3,252	0	0	20	1	19

*Gas production 3,000,000 feet.

PRORATION PLANNED FOR HOWARD COUNTY

(Continued from Page 30)

site approximately 65 miles north on the Texas & Pacific Railroad. Rumors of other proposed refineries and pipe lines to southern Howard County have been current for some time but no definite action has been taken.

Warner Clark, Colorado, representing the California Co., said during the discussion anent the best method of prorating the field, that the combination plan of proven acreage and potential production appeared to be the most equitable.

The following is the registration list of operators attending the meeting.

The following registered at the Howard County, Texas, proration meeting: H. J. Corcoran, Marland Oil Co.; George Marland, Marland Oil Co.; Frank T. Pickrell, Texon Oil & Land Co.; Roy S. Steele, Miley Oil Co.; Walter Ziegler, Goodley Oil & Gas Co.; K. N. Hapgood, Goodley Oil & Gas Co.; H. L. Lockhart, Lockhart & Co.; L. H. Prichard, Col-Tex Refining Co.; Warner Clark, California Co.; C. S. Miller, Tidal Oil Co.; John A. Ritter, Sun Oil Co.; J. W. Timmons, Sun Oil Co.; C. W. Tomlinson, Schermerhorn & Co.; Ward S. Merrick, F. W. Merrick, Inc.; George C. Watson, Schermerhorn & Co.; William Fleming, F-H-E Oil Co.; J. B. Schermerhorn, Schermerhorn & Co.; A. S. Hardwicke, Magnolia Petroleum Co.; A. Cobden, Magnolia Petroleum Co.; J. C. Strans, Wichita Falls, Tex., royalty holder; H. O. Wootener, Abilene, Tex., royalty holder; John E. Kilgore, Owen-Sloan Oil Co.; S. A. Sloan, Owen-Sloan Oil Co.; S. S. Owen, Owen-Sloan Oil Co.; Robert T. Piner, West Texas National Bank; R. A. Elliott, F-H-E Oil Co.; D. C. Proctor, Gulf Production Co.; Glenn Garrett, Gulf Production Co.; I. G. Harmon, Marland Oil Co.; William J. Ricker, Marland Oil Co.; Arthur J. Coyle, Coyle-Concord Oil Co.; J. R. McCalden, Coyle-Concord Oil Co.; Lonnie Glasscock, Big Spring, Tex., royalty holder.

HEAVY GASOLINE TAX EFFECTIVE IN ENGLAND

During the past week an 8½-cent tax has been placed on each imperial gallon of gasoline, kerosene and turpentine substitute consumed in England and the effect of the 2-cent cut in the retail price made by most of the larger companies last week has been more than offset so that motorists are now paying a much higher price than they are used to paying. These represent the first price changes since August of last year but numerous price concessions have been offered on the open market where the quantity of the material involved was high.

Up to the present there has been a large increase in the imports of gasoline, the increase amounting to approximately 15 per cent for the first three months of this year, or nearly 17,000,000 gallons. What ultimate effect this increased tax will have remains to be seen but if no doubt will tend to retard the increasing consumption for the immediate future.

The net prices set by the various dealers free of tax follows: In the London zone 1s. 1½d. a gallon from the pump and is 1s. 2½d in cans. In the remainder of England and Wales it was 1s. 2½d. at the pump and 1s. 3½d. in cans.

The companies sharing in the reductions were Anglo-American Oil, British Petroleum, Carless, Capel & Leonard, Glico Petroleum, National Benzole, Redline Motor Spirit, Scottish Oil Agency, Shell-Mex and McMullen Brothers.

EFFECTIVE AND CONSTRUCTIVE CO-OPERATION IN OIL SCOUTING

By Rex L. Dawson*
Carter Oil Co.

Why is an oil scout? What is an oil scout? Briefly, a scout, in order to do the job justice and to be of the most value to his company, should be a man with considerable knowledge of the oil business in general, especially in the producing end of the business. Too frequently we hear of the fellow with no knowledge of the business, but who is very anxious to break in and learn, and has the idea that the proper way to begin would be to secure a job as a scout. It is surprising how many men, especially officials in the oil business, who believe this. The result is—an inefficient scout, until he has gained the necessary knowledge to carry on.

For the man who has a fair knowledge of the business, and who uses it to the best of his ability, a scouting job offers unlimited opportunities for advancement. Scouting is one of the oldest branches of the industry, coming into prominence shortly after the discovery of the Drake well. While the nature of the work is practically unchanged, the duties and responsibilities have greatly increased.

The large overproduction of crude petroleum during the past year and a half, with its attendant loss to the industry, has brought into common use a word, that in the early history of petroleum, was practically unused by oil producers as a unit. An organized effort to curtail this unprecentented flow of oil has brought into prominence this word which is so closely allied with the present day method of scouting. That word is "co-operation."

In the early day of the oil exchange, the result of one wildcat well had considerable influence on the market, the price often changing a number of times in one day due to persistent rumors. It can be seen easily that accurate information was most desirable, as many rumors were maliciously started by market manipulators. Men were employed by operators to keep their principals informed on the status of any important wells. These men were eventually termed—"oil scouts."

Changed Methods

While there was some exchange of information among these pioneer scouts, it was more or less a case of each man for himself. Data procured was for his employer only; however, with the gradual growth of the business, the manner of gathering information has changed constantly to meet the demands of what is now the second largest industry in the world.

Many of you have witnessed a gradual transition in scouting work and methods the past few years. A decade ago a "check meeting" was unknown. A chance meeting in the field, on the road, or in the hotel, with an exchange of information on a few wells was the forerunner of the check meeting. At that time reports of drilling depths, completions and production records were practically the whole of a scout's duties. Today they are varied and numerous, for example, mention might be made of the thorough manner in which all information was obtained on the great Seminole Field. This information consisted of the daily gauge of production on each lease in the field, totaling at one time in excess of 500,000 bbls., which was compiled every morning; also the status of all important drilling wells, pipe line runs, tank car shipments, crude runs to storage and much other valuable data. For any one operator to keep up this vast amount of information from day to day was out of the question, therefore, there was only one alternative—co-operation. The efficient and orderly manner in wh'ch this was accomplished is remarkable, and the Seminole scouts are to be commended.

Few of you realize the importance of your information and the use made of it after it reaches headquarters. Your data, when summarized and compiled into reports, forms permanent records pertaining to oil history. The scouting department is closely associated with practically every department in your organization. It is one of the mediums through which the executives of your company form their ideas, base their opinions, and keep advised of the true conditions of the oil situation at all times.

While the present method of exchanging information undoubtedly has many advantages, it has one serious disadvantage that is worth while bringing to your attention. That is the disadvantage of the careless, the unreliable, the inefficient scout. Unfortunately the old adage "if you'd have a thing well done, do it yourself" cannot be adhered to. It evolves that one scout is necessarily dependent on another to a certain extent. When one of your reports is incomplete, or worse still, incorrect, it forms a record in the files, which, in future years, may cause a great amount of worry and expense. It is one of the purposes of this organization to promote accuracy.

While we are met here for a two-day festival of diversion and entertainment, let us at all times bear in mind the fundamental principles and the reason for the existence and continuance of our organization. Let us increase our acquaintanceship, which leads to an ever enlarging circle of friends. Let us enhance that feeling of fraternalism not only among ourselves, but also with our guests and all men associated with the petroleum industry. Let us strive to mold public opinion to the true worth of our occupation. There is probably no work in the oil industry with which the general public is less familiar. It is deplorable that the prevailing opinion among the uninformed is that all a scout does is to drive a car from well to well and ask, "How deep are you?" Let us correct this erroneous impression.

In conclusion, let me impress upon you the real meaning of "efficient co-operation." We should not be content merely with co-operation. We should strive for effective and constructive co-operation, combining our efforts to obtain information that is adequate, that is valuable, and above all, that is reliable. In these few words I hope I have given you the essence of "efficient co-operation" as it applies to you and your work.

*Before Mid-Continent Oil Scouts and Land Men's Association, Guthrie, Okla., April 27, 1928.

GAS EXECUTIVE VISITS TULSA

John J. O'Brien, president of Standard Gas & Electric Co., H. M. Byllesby & Co., Northern States Power Co., Oklahoma Gas & Electric Co., Shaffer Oil & Refining Co., etc., accompanied by other officials, who are making an extended tour of inspection of the Oklahoma properties of the company, were guests this week of John L. Gray, executive president of Shaffer Oil & Refining Co.

The officials accompanying Mr. O'Brien are: B. W. Lynch, vice president of Standard Gas & Electric Co.; M. A. Morrison, treasurer of Standard Gas & Electric Co.; J. F. Owens, vice president and general manager of Oklahoma Gas & Electric Co.; D. T. Flynn, director Standard Gas & Electric Co.; Judge Robert M. Raney and Streeter Flynn, attorneys.

LOUISIANA-ARKANSAS PIPE LINES

SHREVEPORT, La., May 1.—The consolidated pipe line statement for April for North Louisiana and Arkansas is as follows: North Louisiana, crude oil runs 1,409,700 bbls., shipments 1,211,950 bbls., excess of runs over shipments 197,750 bbls.; Arkansas, runs 2,502,600 bbls.; shipments 2,472,600 bbls., excess of runs over shipments 30,000 bbls.

GREATER GALLONAGE ADVERTISING BEGUN

(Continued from Page 32)

the nation's newest port, and spend a few hours in the morning about the lake, returning home in the afternoon.

It's a great opportunity for a weekend outing, and the journey is made more enjoyable by Smiling Loreco Service over the entire trip.

Sunday Dinner at Leesville

Five years ago it took all day to drive to Alexandria from Shreveport, and none but the particularly venturesome attempted to make Leesville by auto except on urgent business.

But tomorrow, if you'd like a day on the road, with plenty of interesting and pleasing experiences, saunter down to Leesville for dinner, and then go either to Alexandria or to Natchitoches enroute back home. Almost every sort of community life will be seen on the trip, and what more beautiful time of year could one wish for such a day's outing?

Over the entire journey you'll seldom be more than a few minutes drive from Smiling Loreco Service.

Ever Been to Rosborough Springs?

If you would like a real Sunday outing with good home cooking served in family style at a big modern hotel, with 160 acres of splendid scenery to play in, and lots of fine mineral water to drink, then take a trip tomorrow to Rosborough Springs. It's a place all too little appreciated by Louisiana folks.

Ten miles south of Marshall, on a splendid highway, is Rosborough, rich in history, modernized and developed into a wonderful resort.

The trip can be made in an hour and a half each way without fast driving, and if you've never been there you've missed something.

In addition to other splendid accommodations you'll find Smiling Loreco Service right on the grounds at Rosborough Springs.

Why Not a Week-End Trip to Vicksburg?

Up North thousands of school children every year look up the city of Vicksburg in their geographies. They read of the siege of Vicksburg and of Mississippi River traffic. Their encyclopoedias tell them that Vicksburg has a great national military park with over 1,300 acres, 30 miles of driveways and more than 1,000 monuments and markers. And they vow that some day they'll visit Vicksburg.

But we who live within a half day's drive of Vicksburg neglect the opportunity that is ours

Plan a week-end outing this spring and go to Vicksburg. The Dixie-Overland highway leads directly to the Mississippi River and the ferry carries you into the town. It is a dandy road, and Loreco Service Stations flash their friendly red and white greeting every few miles.

Logansport on the Sabine

One of the most picturesque spots in the community is Logansport over on the Sabine River just to the southwest of Shreveport. Once a border town, the rendezvous of gamblers, and night-time resting place of overland trans, the history of Logansport reads like a romance.

For an afternoon's drive go down the Mansfield road to Gloster, then to the right through Keatchie to Logansport; saunter about the interesting streets and up and down the bank of the Sabine; then cross over the bridge and go a mile further, to the great Pickering lumber mill at Haslam, Tex.

It's a drive worth while full of education and interest. You'll find smiling Loreco Service all the way.

For Tomorrow's Auto Ride Visit Jefferson

First settled in 1850, incorporated in 1866, Jefferson, Tex., in its heydey was easily the metropolis of East Texas. It grew to have a population of some 20,000, and there were several daily papers. Boats from Red River went out through Caddo Lake, up Cypress Bayou, to the port of Jefferson, and the place teemed with activity.

Then came a disastrous fire. Business declined, newspapers suspended publication, water transportation became a thing of the past.

Jefferson now has a population of 3,000 and is enjoying something of a business revival. Old buildings still stand on the edge of a dry depression in the land at the edge of town, where once was a busy wharf.

Drive over to Jefferson tomorrow by way of Marshall, thence due north over splendid highway, and be well repaid for the journey. Loreco Service will make your trip one of safety in the matter of need for gasoline and motor oil.

Crystal Oil Refining Corp., in its local advertising also thinks well of the suggestion, and while its advertising campaign as a whole is in the hands of a Kansas City agency, the idea will be used in at least some of the mediums employed.

PROGRAM NATURAL GAS CONVENTION

(Continued from Page 29)

BUSINESS COMMITTEES

The committees in charge are:

Arrangements—H. C. Morris, chairman; F. M. Lege, Jr., C. B. McKinney.

Papers—L. K. Langdon, chairman; J. H. Maxon, F. L. Chase.

Exhibition—H. L. Montgomery, chairman; C. O. Cartwright, H. N. Greis, A. W. Leonard, E. J. Schmidt, H. L. Whitelaw; C. W. Berghorn, director of exhibits.

ENTERTAINMENT PROGRAM

Tuesday, May 8

8:30 PM Vaudeville and Smoker, Junior Ballroom, Hotel Adolphus.

Wednesday, May 9

6:30 PM Annual Banquet, Natural Gas Department, Junior Ballroom, Hotel Adolphus.

Speakers:

Hon. Dan Moody, governor of Texas.

Judge C. B. Gilmore, chairman Railroad Commission of Texas.

O. H. Fogg, president American Gas Association.

J. J. Taylor, the Dallas News.

The Vaudeville and Smoker on Tuesday evening is a complimentary function for which tickets will be issued to all those attending the meeting. An excellent vaudeville program has been arranged by H. C Morris and F. M. Lege, Jr., the committee in charge. Good smokes and light refreshments are also on the program. This is a "stag" affair and should give those in attendance a real lively evening.

The banquet on Wednesday is in charge of L. B. Denning and E. R. Brown. The list of speakers is only tentative at present.

LUNCHEONS

Complimentary luncheons will be served on Monday, Tuesday and Wednesday, May 7, 8 and 9, in the Manufacturers' Building, State Fair Grounds.

WEST TEXAS FIELDS

(Continued from Page 40)

Gulf Production Co.:		
All leases	11	5,970
Humble O. & G. Co.:		
M. A. Smith	7	1,926
M. A. Smith-B	4	1,622
Kirby Pet. Co.:		
J. H. Tippett	1	77
Kirby Pet. Co. and Edson:		
J. H. Tippett	1	137
Mariand Oil Co.:		
Yates-A	10	980
Maxda and Savoy Oil Co.:		
M. A. Smith	1	300
McMan and Mariand:		
Yates	16	4,312
McMan O. & G. Co.:		
J. H. Tippett	2	410
Mid-Kansas and Trans.:		
Yates-A	16	3,502
Yates-B	24	6,474
Yates-C	9	2,166
Yates-D	2	850
Yates-E	1	108
Yates-F	1	40
Yates-G	1	535
Smith	2	67
Smith-Taylor	14	5,636
Oil Operators Trust Corp.:		
Pecos River Bed	7	434
Phillips Pet. Co.:		
Smith	1	84
Red Bank Oil Co.:		
Smith	2	515
Roxana Pet. Corp.:		
Tippett	7	3,467
Smith	5	1,181
Skelly Oil Co.:		
Tippett	1	90
Simms Oil Co.:		
Smith	6	3,104
Texon O. & L. Co.:		
Yates	2	0
Total Yates Field	181	51,800
Average per well		286.1
Winkler County		
Atlantic O. P. Co.:		
Grisham-Hunter	7	6,203
Grisham-Hunter-E	2	2,418
Ida Hendricks	1	314
Ida Hendricks-D	4	*4,628
Atlantic and Collett:		
Ida Hendricks-F	2	7,409
California Co.:		
Ida Hendricks	7	5,002
Cranfill & Reynolds:		
Ida Hendricks	1	1,824
Grisham-Hunter-B	1	144
Hendricks-C	2	*21,118
Gulf Prod. Co.:		
T. G. Hendricks	10	17,577
Humble O. & R. Co.:		
Grisham-Hunter	8	*17,728
Ida Hendricks-B	6	5,983
T. G. Hendricks-C	1	11,023
Independent O. & G. Co.:		
E. W. Cowden	1	190
Grisham-Hunter	7	*6,961
Grisham-Hunter-B	4	*4,592
Hendricks	1	19
Ida Hendricks-B	1	245
Landreth Prod. Corp.:		
Grisham-Hunter	2	5,980
Ida Hendricks- A	4	4,869
Magnolia Pet. Co.:		
Ida Hendricks	6	2,973
Murchison and Cranfill Bros.:		
Grisham-Hunter	2	127
Grisham-Hunter-C	1	78
Grisham-Hunter-B	2	604
Pure Oil Co.:		
Grisham-Hunter	5	*2,590
Grisham-Hunter-B	4	2,967
Republic Prod. Co.:		
Grisham-Hunter-A	2	*3,351
Grisham-Hunter-B	2	1,200
Roxana and Llano:		
Scarborough	2	26
Roxana Pet. Corp.:		
Grisham-Hunter-A	2	*12,583
Grisham-Hunter-D	4	*3,762
Ida Hendricks-B	3	*4,367
Ida Hendricks-C	8	*16,425
Southern Crude Co.:		
T-67 Hendricks-A	2	465
T-67 Hendricks-C	5	1,048
T-67 Hendricks-B	2	784
T-67 Hendricks-3-B	2	*15,398
T-67 Hendricks-F	3	2,348
T-68 Ida Hendricks-A	1	0
T-88 Ida Hendricks-A	2	1,623
T-88 Hendricks-B	2	5,544
T-88 Ida Hendricks-C	6	2,103
T-88 Ida Hendricks-H	2	2,279
T-88 Ida Hendricks-I	1	1,061
Texon O. & L. Co.:		
Grisham-Hunter-A	2	*5,149
Grisham-Hunter-B	2	2,550
Total Winkler County	148	215,632
Average per well		1,456.9

*Pinched in.

FORM NEW PRODUCTION ENGINEERING DIVISION

(Continued from Page 31)

Wallace, Humble Oil & Refining Co.; Willis Storm, Pandem Oil Corp.; M. L. Brown, Sun Oil Co.; S. M. Greenidge, Texas Pacific Coal & Oil Co.; W. C. Thomas, Vacuum Oil Co; M. C. McDowell, Rio Bravo Oil Co.; James Hutchinson, Rio Bravo Oil Co.; Melbert Schwartz, Rio Bravo Oil Co.; W. C. Trout, Lufkin Foundry & Machinery Co.; Walter H. Meiers, Atlantic Oil & Refining Co.; C. B. Edwards, Lukfin Foundry & Machine Co.; Clenver McConnell, Roxana Petroleum Corp.; L. L. Lookabaugh, Roxana Petroleum Corp.; C. W. Alcorn, Roxana Petroleum Corp.; E. G. Allen, Roxana Petroleum Corp.; R. H. Tash, Fort Worth Laboratories; L. L. Rector, Longhart Supply Co.; W. D. Small, El Paso Foundry & Machine Co.; T. K. Knox, Texla Leasing & Royalty Co.; W. J. Jackson, Southern Crude Purchasing Co; M. G. Stewart, Pelican Well, Tool & Supply Co.; F. S. Lane, Magnolia Petroleum Co.; W. S. Geary, Magnolia Petroleum Co.; F. G. Leidecker, Atlantic Oil & Refining Co.; W. L. Todd, Simms Oil Co.; Frank Gardner, Simms Oil Co.; P. S. Haury, Simms Oil Co.; R. I. Moore, Allis-Chambers Manufacturing Co; D. M. McGargar, Allis-Chambers Manufacturing Co.; Paul L. Brooks, Parkersburg Rig & Reel Co.; J. A. Lane, Parkersburg Rig & Reel Co.; Millard Land, Vacuum Oil Co.; Linn K. Park, Portable Rig Co.; C. F. Contois, Gulf States Utility Co.; M. Manning, Humble Oil & Refining Co.; J. A. Birmingham, The Texas Company; A. S. Field, Roxana Petroleum Corp; E. C. Lawry, Roxana Petroleum Corp.; George B. Corless, Humble Oil & Refining Co.; William E. Hubbard, Humble Oil & Refining Co.; H. L. Edward, Humble Oil & Refining Co.; J. W. House, Humble Oil & Refining Co.; F. S. Seeley, Humble Oil & Refining Co.; L. M. Landman, Texas Pacific Coal & Oil Co.; R. Beattie, Texas Pacific Coal & Oil Co.; C W. Metzger, Haynes Stellite Co.; E. E. LeVan, Haynes Stellite Co.; W. F. Sutton, Humble Oil & Refining Co.; R. L. Sloan, Humble Oil & Refining Co.; S. G. Childress, Rio Bravo Oil Co.; J. J. Potter, Jr., Rio Bravo Oil Co.; John R. Suman, Humble Oil & Refining Co.; C A. Young, American Petroleum Institute; R. B. Kelly, Pure Oil Co.; J. F. Baker, Sun Oil Co.; F. C. Metzger, Sun Oil Co.; D. G. Safford, Eastland Oil Co.; J. C. Fordon, Pure Oil Co.; J. B. Durkee, A. M. Byers Co; H. B. Weathersby, A. M. Byers Co.; F. W. Karl, A. M. Byers Co.; J. B. McMahon, the Foxboro Co.; C. L. Bryan, the Foxboro Co.; H. A. Holstein, Atlantic Oil & Refining Co.; J. H. Stewart, Atlantic Oil & Refining Co.; R. A. Murphy, Atlantic Oil & Refining Co.; J. E. Kernill, Atlantic Oil & Refining Co.; W. A. Snyder, Atlantic Oil & Refining Co.; S. L. Carter, S. M. Jones; C. E. Sutton, United States Bureau of Mines; E. J. Dewees, United States Bureau of Mines; L. F. Griffin, United States Bureau of Mines; H. B. Hill, United States Bureau of Mines; H. N. Pardee, independent producer; L. A. Eberhart; J. A. Lyne, Parkersburg Rig & Reel Co.; P. L. Brooks, Parkersburg Rig & Reel Co.; U. G. Guiberson, Parkersburg Rig & Reel Co; G. A. Montgomery, Parkersburg Rig & Reel Co.; L. K. Laney, The Texas Company; J. A. Ritter, Sun Oil Co.; M. B. Sweeney, Sun Oil Co.; H. C. England, Sun Oil Co.; A. P. Davis, Sun Oil Co.; W. D. Brookover, Panhandle Refining Co..

VISIT REFINERIES

HOUSTON, Tex., Apr. 28.—A group of delegates to the National Foreign Trade Convention following the close of the sessions here Friday afternoon left today in a special train for Beaumont and Port Arthur where they visited refineries and terminals on the Beaumont ship channel and Sabine Lake.

The delegates, who made the trip, were guests at lunch at the Gulf Refining Co.'s plant at Port Arthur. The plants to be seen by the delegates in that refining center are: the Magnolia Petroleum Co. The Texas Company, Pure Oil Co., Gulf Refining Co. Terminals of the Sun Oil Co. and the Atlantic Refining Co. also were visited.

PANHANDLE GEOLOGISTS ELECT

John L. Ferguson, district geologist in the Panhandle of Texas, and for eastern New Mexico, of the Amerada Petroleum Corp., is the new president of the Panhandle Geological Society. J. J. Mauchi of Marland Production Co., vice president, with Lawrence R. Hagy of Hagy & Harrington, secretary-treasurer.

TEXAS PANHANDLE FIELDS

(Continued from Page 38)

part. Its No. 1 Cross, however, made 133 bbls. and is located in the southeastern part of the field.

Gilman and McMurray completed a 350-bbl. well in the Cross Plains area. The Phillips Petroleum Co. completed the best well in that district when its No. 11 Hickman made 400 bbls. after a shot at 1,265-85 feet.

E. J. Cunningham's No. 2 Jennings in the A. S. Lipscomb Survey No. 94, 7 miles southeast of Santa Anna in Coleman County, was a much better well than previously estimated. The well swabbed 65 bbls. natural, but after a 10-quart shot it made 90 bbls. Production is believed to be coming from the Fry sand, but the gravity of the oil is lower, as the crude from No. 2 tested 32.1 gravity. Henshaw Oil Corp., which has experienced success in Brown County, has completed assembling three wildcat blocks in Coleman and is scheduled to start drilling within a short time. Two of the blocks are in the southwest part of the county and one in the east part.

Production in the Ranger district showed another increase, principally due to the increase in Shackelford County.

WICHITA FALLS DISTRICT COMPLETIONS
Week Ending April 28

Archer County

Birdwell Oil Co.'s No. 3 Wilson-A made 60 bbls. at 1,578-83½ feet. F. P. Cullum and others' No. 2 Mankins and others was shot with 7 quarts at 660-72 feet and made 10 bbls. F. H. Gohlke and others' No. 5 Wilson made 60 bbls. at 1,557-65 feet. Petroleum Producers Co. and others' No. 3 Wilson-E found the pay at 1,562-80 feet and made 162 bbls. Birdwell & Heydrick's No. 15 Abercrombie & Taylor made 10 bbls. at 1,-330-50 feet. F. P. Rose's No. 1 Garvey made 15½ bbls. at 742-62 feet.

The following wells were reported as dry and abandoned: Frank Hutcheson's No. 1 fee at 1,177 feet. C. P. Sheldon's No. 1 Jones at 1,051 feet. Consolidated Oil Co. of Texas' No. 2 Lisle at 1,427½-29 feet. C. L. Richardson's No. 1 Richardson at 1,319 feet. Young and others' No. 1 S. Wilson at 1,402 feet.

Jack County

Watchorn Oil & Gas Co.'s No. 1 Williams Brothers was drilled to a total depth of 5,635 feet. The well was plugged back to 4,525 feet and produced 5 bbls. daily through the tubing from pay at 4,467 to 4,504 feet.

The following wells were reported dry and abandoned: W. B. Albright's No. 1 Brothers and others at 685 feet. Hicks & McNabb's No. 1 Moore at 350 feet. Radford & Sunday's No. 1 Jackson at 210 feet. Seaboard Oil & Gas Co. and others' No. 4 Cullers and others at 2,-012 feet.

Montague County

R. I. Carter's No. 1 Jones made 46½ bbls. of oil and 20 bbls. of water at 795-802 feet. W. R. Bourland and others' No. 1 McGaughy was dry and abandoned at 1,631 feet.

Wichita County

H. D. White and others' No. 3 Donehoo made 1 bbl. at 392-97 feet. Birdwell & Mayfield's No. 2 Womack made 26 bbls. at 1,314-33 feet. Hammon and others' No. 7 McCarty-C made 30 bbls. at 1,332-56½ feet. Rio Bravo Oil Co.'s No. C-1-G Rio-Bravo-C made 42 bbls. at 970-81 feet. Same company's No. C-1-K Rio Bravo-C made 8 bbls. at 372-81 feet. Same company's No. C-13 Rio Bravo-C made 25 bbls. at 1,006-15 feet. Rubsam & Hunter's No. 1 McClure made 5 bbls. at 824-42 feet. Same company's No. 4 McClure made 15 bbls. at 544-48 feet. Same company's No. 5 McClure made 3 bbls. at 562-86 feet. Same company's No. 7 McClure made 8 bbls. at 599-667 feet. Same company's No. 8 McClure made 5 bbls. at 812-46 feet. Same company's No. 9 McClure made 10 bbls. at 794-801 feet. Same company's No. 10 McClure made 5 bbls. at 540-49 feet. Same company's No. 11 McClure made 5 bbls. at 806-10 feet. Same company's No. 12 McClure made 5 bbls. at 806-50 feet. Same company's No. 13 McClure made 8 bbls. at 808-23 feet. Same company's No. 14 McClure made 8 bbls. at 816-37 feet. Same company's No. 15 McClure made 3 bbls. at 795-807 feet. Same company's No. 16 McClure made 5 bbls. at 818-27 feet.

The following wells were reported as dry and abandoned: Ascot company's No. 1 Roller-C at 2,027 feet. T. Lomax and others' No. 3 McCormick at 1,298 feet. Bridwell & Heydrick's No. 23 W. T. Waggoner at 401 feet. Rio Bravo Oil Co. abandoned the following wells: No. 2 Rio Bravo-C at 2,006 feet; No. 4 Rio Bravo-C at 1,200 feet; No. C-4-D Rio Bravo-C at 2,147 feet; No. C-12 Rio Bravo C at 1,040 feet; and No. C-14 Rio Bravo-C at 1,577 feet.

Wilbarger County

Barkley & Meadows' No. 3 Waggoner-A was shot with 10 quarts at 2,352-74 feet and made 135 bbls. Phillips Petroleum Co.'s No. 18 Waggoner-D made 30 bbls. at 2,339-41 feet. The Texas Company's No. 8 Waggoner-B made 20 bbls. at 2,359-70 feet.

Young County

Cunningham and others' No. 1 Hawkins made 30 bbls. at 490-516 feet. Same associates' No. 7 Hawkins made 70 bbls. at 492-521 feet. Gwynn's No. 1 Kunkel made 60 bbls. at 1,140-43 feet. Riggs and others' No. 5 McKinley made 130 bbls. at 576-89 feet. Shappell Oil Co.'s No. 8 Johnson made 6 bbls. at 516-24 feet. Same company's No. 9 Johnson made 8 bbls. at 502-14 feet. Stafford's No. 1 Langston made 3 bbls. at 591-605 feet. Nash-Windfohr & Phillips' No. 1 Williams made 25 bbls. of oil and 15 bbls. of water at 1,675-90 feet.

The following wells were dry and abandoned: Atlantic Oil Producing Co. and Casey's No. 1 Brainard at 670 feet; Bowen's No. 1 Brooks at 525 feet; Cooper & Goldsmith's No. 1 Adams at 600 feet; Kelleher & Rogers' No. 1 Stratton at 602 feet; Kerbow & Albright's No. 1 Vaden at 700 feet; Madden & Hunt's No. 1 Kilcrease at 1,055 feet; Panhandle Refining Co.'s No. 1 Hawkins at 509 feet; Reed and Wooten's No. 1 Keen at 645 feet; The Texas Company's No. 1 Gegg at 851 feet. Wichita Producing Co.'s No. 1 Farmer at 1,150 feet. Wise & Jackson's No. 1 Rowley at 605 feet; Pitzer & West's No. 1 Graham at 2,185 feet; Roberts Oil Corp.'s No. 1 Burk at 2,501 feet.

RANGER DISTRICT COMPLETIONS
Brown County

Cranfill & Reynolds' No. 2 Eubanks found the pay at 1,205-23 feet and made 400 bbls. E. M. Curry's No. 2 Chamber was shot with 2, 3, 5 and 25-quart shots at 1,309-19 feet and made 25 bbls.; the total depth of this well is 1,470 feet. Gilman & McMurray's No. 1-A Hickman made 350 bbls. after a 30-quart shot at 1,240-72 feet. Henshaw Oil Corp.'s No. 1 Cross found the pay at 1,082-90 feet and made 133 bbls. Humble Oil & Refining Co.'s No. 1 Munsette was shot with 10 quarts at 1,127-32 feet and made 16 bbls. Jay Hawk Oil Co.'s No. 5 Boyson made 75 bbls. at 1,205-15 feet. Phillips Petroleum Co.'s No. 11 Hickman made 400 bbls. after being shot with 5, 14 and 10-quart shots at 1,265-85 feet.

The following were reported dry and abandoned: Baker and others' No. 2 Cross had no results after a 20-quart shot at 1,078-83 feet and was abandoned at 1,100 feet. Henshaw Oil Corp.'s No. 9 Bush was shot with 10 quarts at 1,-085-89 feet with no results and was abandoned at 1,150 feet. Same company's No. 10 Bush was abandoned at 1,200 feet. Mexana Oil Co.'s No. 1 Bradley was abandoned at 1,310 feet. Mitcham and others' No. 1 Thomason was abandoned at 1,060 feet. Calcasieu Oil Co.'s No. 1 McMullen was dry in the Ellenberger lime at 1,568 feet and was abandoned. Ditto Oil Interests' No. 1 Bettis heirs was abandoned at 1,627 feet.

Callahan County

Sterling Oil Co.'s No. 1 Wheeler made 10 bbls. at 700-07 feet. Syndicate Oil Co. and Beason have abandoned the location for their No. 1 Jackson.

Coleman County

Anzac Oil Co. and others' No. 1 Alexander made 10,102,000 feet of gas, 450 pounds rock pressure at 2,133-44 feet. Mid-Sun Oil Co.'s No. 1 Harris was dry and abandoned at 2,033 feet. Oswego Petroleum Co. has abandoned the location for its No. 1 Miller. The Texas Company's No. 1 Starnes was dry and abandoned at 2,304 feet. Renee Oil Co.'s No. 1 Cox was dry and abandoned at 2,005 feet.

Eastland County

Goodwin and others' No. 2 Parker pumped 12 bbls. at 1,435-60 feet. Teatsorth and others' No. 2 Holcomb and others made 40 bbls. at 1,326-47 feet. John W. Hooser has abandoned the location for his No. 2 Henry. Independent Oil & Gas Co.'s No. 1 Snider was dry in the Ellenberger lime topped at 3,513 feet and has been abandoned.

Parker County

Woold-Hats Oil Corp.'s well was shot with 60 quarts at 2,030-60 feet with no results.

Shackelford County

Petroleum Producers Co.'s No. 2 Matthews (formerly No. 3) made 5,000,000 feet of gas and sprayed oil at 1,123-53 feet. Gibson & Johnson's No. 1 Davis was dry and abandoned at 2,800 feet. Gilman & McMurray's No 1. Reynolds was dry and abandoned at 1,255 feet.

Stephens County

Charter Oil Co.'s No. 1 Tomlinson made 3,500,000 feet of gas at 1,715-19 feet.

Panhandle Completions
Armstrong County

United Oil & Trust Co.'s No. 1 J. P. Reck, Section 162, Block 4, H.&G.N. Survey, had salt water at 3,770-80 feet and was abandoned at 3,780 feet.

Gray County

Empire Gas & Fuel Co.'s No. 1 S. A. Cobb "A", NW cor. NE, Section 64, Block 25, H.&G.N. Survey, was drilled to a total depth of 3,137 feet and completed as a 5,000,000-foot gas well at 2,177 to 2,405 feet. A rainbow showing was found at 2,510 and 2,637 feet. Same company's No. 1 T. Cobb "B", C NW Section 178, Block 3, I.&G.N. Survey, was completed as an 18,000,000-foot gas well at 2,455 to 2,633 feet. Guernsey Oil Co.'s No. 2 B. E. McKinney, Section 163, Block 3, I.&G.N. Survey, was shot with 60 quarts at 3,257 to 3,313 feet and is flowing 70 bbls. daily from sandy lime at 3,257-65 feet, total depth 3,320 feet. Magnolia Petroleum Co.'s No. 1 J. B. Bowers swabbed 253 bbls. from granite wash at 2,853-55 feet, total depth 3,040 feet.

Phillips Petroleum Co.'s No. 2 Davidson (Myson), NE cor. NW NW, Section 87, Block B-2, H.&G.N. Survey, is pumping 40 bbls. daily from granite wash at 3,060-71 feet. Skelly Oil Co.'s No. 1 Bradford, NE cor., Section 118, Block B-2, H.&G.N. Survey, had granite wash at 2,944-90 feet and was bottomed at 3,325 feet. The well was shot with 460 quarts at 2,866 to 3,000 feet and swabbed 80 bbls. the first 24 hours. Sullivan and associates' No. 1 A. Chapman "A" was completed making 23,000,000 feet of gas at 2,280 to 2,300 feet, total depth 3,014 feet. Sun Oil Co.'s No. 1 W. Jackson swabbed 120 bbls. initially from granite wash at 3,135-45 feet, total depth 3,150 feet. The Texas Company's No. 1 C. Thut, C N half of east 320 acres. Section 1, H.&G.N. Survey, was plugged back from 4,375 feet to 2,750 feet and completed making 11,000,000 feet of gas at 2,440 to 2,740 feet. The location was temporarily abandoned for Travis and associates' No. 1 A. Chapman, SW cor. SW, Section 10, Block 26, H.&G.N. Survey.

Hutchinson County

Dixon Creek Oil Co.'s No. 1 Burnett estate, NW cor. of east 240 acres of north 320 acres, Section 120, Block 5, I.&G.N. Survey, was plugged back to 3,125 feet from 3,260 feet and shot with 120 quarts at 3,040-75 feet and swabbed 25 bbls. initially.

PLANT OPERATES AT VERY HIGH PRESSURES

(Continued from Page 155)

controlled by means of the float shown in the picture. The reflux tower has an automatic trap controlling both the refluxed water and the reflux oil returning the oil to the vent tank and the water to the hot well.

Figure 2 shows the heat exchangers, oil coolers, condenser and lock-box arrangement. The two nearest square sections are the oil coolers which are connected up in series. The two sections in the background are the heat exchangers. The hot lean oil comes from the still through the heat exchangers to the oil coolers and then to a surge tank, from whence it is picked up by high pressure pumps and forced through the absorbers. After coming from the absorbers it goes to a vent tank where it is picked up by low pressure pumps and forced through the heat exchangers and the preheater to the still. The low pressure pumps are operated by a belt driven by a steam engine and the high pressure units by countershaft and belt to a gas engine.

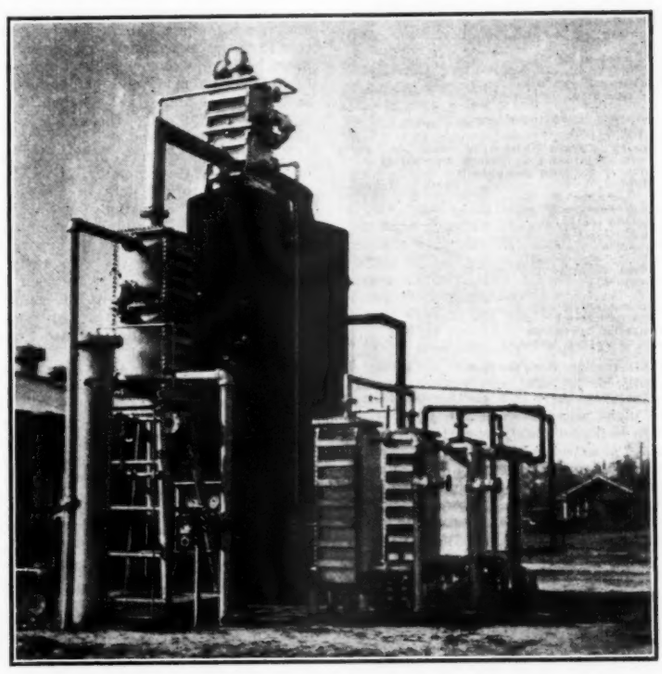


Figure 2—View of heat exchangers, oil coolers and condenser at plant.

Lean oil from the coolers goes through a tail gas absorber where all vapors from

stock tanks and vent tanks are treated. This particular part of the plant's operation is very economical in that no gas from the mains is required for boilers or other consumption. A small compressor is installed for tanking stock tank and vent tank vapors which are put through the tail gas absorber and then used under boilers and elsewhere about the plant, doing away with the necessity of bringing pressure up for introduction into the main pipe lines.

Due to existing conditions, this plant is highly economical in operation in that no booster stations are required for its operation. Pressure from the field is sufficient to pass the gas through the plant and then push it 150 to 180 miles to El Dorado and Camden, where it arrives with plenty of pressure for the distributing systems. Four men, superintendent, and one for each 10-hour shift, keep the plant in efficient operation.

REFINERY GASOLINE HIGHER IN GROUP 3

(Continued from Page 28)

as a basis of comparison. Over the period from January 1 to date the refinery margin per barrel of crude run has increased approximately 26 cents a barrel. As a basis, the refinery revenue was figured using the January refined oil prices and then using present prices A skimming operation when running Seminole crude was taken and may be considered as representative. On January the refinery is shown as losing 12 cents on every barrel of crude refined. At today's spot prices a profit of 14 cents per barrel is shown. The detailed realizations are shown below:

Refinery Margin Skimming Seminole Crude in Oklahoma on Today's Market Prices

Yield—	Price	Revenue
42% Gasoline @	$ .07	$1.23
8% Kerosene @	.05	.17
25% Gas oil @	.02½	.26
22% Fuel oil @	75	.16
3% Loss		...
Gross revenue per barrel crude		$1.82
Field cost of crude	$1.38	
Pine line charge	.15	
Skimming operation	.15	
Bare operating expense		$1.68
Refinery operating margin per barrel		$ .14

Refinery Margin Skimming Seminole Crude in Oklahoma at Prices Prevailing on January 1

Yield—	Price	Revenue
42% Gasoline @	$ .05¾	$1.01
8% Kerosene @	.04..	.14
25% Gas oil @	.02½	.26
22% Fuel oil @	.70	.15
3% Loss	...	...
Gross revenue per barrel crude		$1.56
Field cost of crude	$1.38	
Pipe line charge	.15	
Skimming operation	.15	
Bare operating expense		$1.68
Refinery operating margin per barrel (loss)		.12

However, there is a greater increase in the plant margin since the first of the year, in those plants operating cracking units. Most refiners find it pays to crack under the present refined oil price structure. The total increase, including the revenue from cracking, however, will do no more than pay the sales and overhead costs.

Considering that the industry has passed through the longest period of low prices in its history and refiners have sustained heavy losses on their operations, many are not in a position to meet competition at lower prices even if lower prices existed. With this as a basis gasoline prices may continue to go still higher without a crude advance. Most refiners agree, however, that prices are nearing the point where it will be conducive for shut-down plants to renew operations and for operating plants to run more crude. Some have suggested 7½ cents as the maximum price to expect for U. S. Motor gasoline without support from a crude advance.

Gasoline and Naphtha

Very little gasoline could be bought under the general market prices and the 58-60 U. S. Motor grade was firm at 7 cents. Over May refiners quoted 7¼ cents but were not anxious to take the business at that price. They discouraged any buying based on a flat price over the future.

The weighted average prices on the more important grades of gasoline for May 1 and Monday of the week previous are shown below:

Grade—	Price May 1	Price April 23
58-60 437 endpoint	.06940	.06851
60-62 437 endpoint	.06944	.06798
60-62 400 endpoint	.07000	.07096
64-66 375 endpoint	.07214	.07350

There was considerably more attention being given naphtha because of the advance in gasoline prices and while naphtha prices advanced in proportion, blenders considered the difference in price sufficiently attractive to buy naphtha.

Kerosene and Distillates

The 41-43 grade was generally quoted at 5 cents and there was only a slight tendency to force prices higher. An export inquiry strengthened the tone of the market, but plenty material was being offered at the established price.

Distillates moved very slowly and as the distillate season comes to a close sales are scattered.

Natural Gasolines

All grades of natural gasoline except the C grade showed a recession in price. There was a decided lull in the domestic demand as April came to a close and refiners are not buying more than their needs at present. Over the two previous weeks, many of them purchased for storage in anticipation of the higher prices. Manufacturers are confident the top of the market has not been reached, however, and anticipate another period of great activity within the next 10 days. They also agree, however, that large export purchases will have to be made before the full swing of activity can be developed.

Gas Oil and Fuel Oil

There was plenty oil available to satisfy the spot demand and while some demand was coming from refiners for cracking, the effect of the lower fuel prices offset any tendency for prices to strengthen.

The lower gravity fuel oils were quoted at prices covering a very wide range. The grades below 18 gravity were quoted at prices ranging from 67½ cents to 80 cents and the market was very poorly defined.

Some refiners have contracts which take practically all of their production leaving only a small amount for the spot market and they are holding prices well above the low, while those refiners who have to move their production into territories being supplied with West Texas fuel have to take less for it.

Lubricants and Wax

The continued increase in the demand week by week has strengthened the position of the market but there has been no tendency to force a general advance. Bright stocks witnessed a better demand but did not strengthen in price.

Wax inquiries for shipment over May were received in more than the usual amount and this made refiners very optimistic regarding prices over the immediate future. Prices were advanced from one-fourth to one-half cent and were well supported.

JUDGE VEASEY CHIEF SPEAKER AT SCOUTS AND LAND MEN'S CONVENTION

By J. L. Dwyer

The annual convention of the Mid-Continent Oil Scouts & Land Men's Association held at Guthrie, Okla., Friday and Saturday, April 27 and 28, was attended by over 300 members, their guests and officials of almost every large oil company in this region. The two days were pleasantly interspersed with business sessions and social activities.

Fred J. Hill, scout in the central district of Oklahoma for the Mid-Continent Petroleum Corp., was elected president of the organization, succeeding C. E. Savage of the Carter Oil Co., who has served two terms. I. R. Welch of the Roxana Petroleum Corp.'s Ponca City, Okla., office, was elected first vice president, and is the first land man to be honored with office in the association. Robert P. Brewer, scout for the Barnsdall Oil Co. in Kansas, was elected vice president, and Simon Crites of the Phillips Co.'s Bristow, Okla., office, was re-elected secretary-treasurer.

The annual banquet was held on Friday night at the Ione Hotel. In addition to an address of welcome by Judge J H. Hildreth, and a response by C. E. Savage, president of the association, there were speeches by Rex L. Dawson of the Carter Oil Co. and R. S. MacFarland, secretary of the Twin State Oil Co. and president of the American Association of Petroleum Geologists, and C. N. Haskell, former governor of Oklahoma. The main address of the evening was by James A. Veasey, chief counsel of the Carter Oil Co., who spoke on the tendency to governmental control of business.

Must Meet Trend of Times

Mr. Veasey delivered a brilliant speech in which he stressed the fact that the oil industry must put its house in order, and not attempt to drift counter to the trend of modern times. The industry must build for tomorrow and not alone for today, he said, and emphasized the fact that an important change in the business should come through evolution rather than revolution.

Explaining the very distinctive form of American Government, Mr. Veasey traced the historical drift of government intervention in industry, starting with the railroads and gradually extending to every form of public utility corporation. He indicated that in the constantly expanding struggle for power between Federal and State government the Supreme Court of the United States displayed an increasing disposition to increase Federal power.

Discussing the attitude of the oil industry of America he mentioned that one of its outstanding accomplishments was that it had given proper heed to the welfare of all people, although it often found itself confronted with the staggering problem of overproduction, resulting in a wide price fluctuation, and remarked that a stabilized price would be extremely convincing to the public. Mentioning the Greater Seminole Field, Mr. Veasey said that, lamentably, the zeal of the dollar of today, and the neglect and disregard for the dollar of tomorrow in that area, stopped temporarily the progress which the industry has been developing, but that Seminole, through the realization of the loss which it caused, has made possible the co-operation which is so widespread in the industry today. Through the basic question of stabilization, the oil industry is now squarely on the road to recovery.

Considering the oil problems of the future, Mr. Veasey said the only feasible solution was in some form of co-operative development of the fields of the future, and that if once the principles of this could be firmly established in the minds of the individuals, the details would automatically follow, and that through this medium, eventually, a brighter day would dawn for the industry.

Veterans Present

There were many veteran scouts of 10 years' service present at the convention, including Charlie Hewitt of the Mid-Continent Petroleum Corp.'s Okmulgee office; "Mike" Michaels, of the Shaffer Oil & Refining Co. force; C. E. Savage, of the Carter Oil Co.; Rex L. Dawson, assistant chief scout of the Carter Oil Co.; Jim Buckley, chief scout of the Twin State Oil Co., and Ed Bacon, chief scout of the Roxana Petroleum Corp. Claude Hildebrand of the Phillips Petroleum Co.'s Amarillo, Tex., office, dropped up to say hello to the boys, disguised in

FRED J. HILL
Scout in central Oklahoma district for the Mid-Continent Petroleum Corp., who was elected president of the Mid-Continent Oil Scouts and Land Men's Association.

a new pair of horn-socket spectacles; Jim Craun of the Carter Oil Co.'s Pawhuska district, who scouted the Drake well, shot several rounds of golf with the youngsters; Si Crites, M. P. Norwood, of the Prairie Oil & Gas Co., Bill Gray of the Twin State Oil Co., Hank Waters, chief scout of the Sinclair Crude Oil Purchasing Co., and John Watson of the Sinclair Oil & Gas Co. land department, were also 10-year men present.

The board of directors of the association will soon decide where the next convention will be held. Cushing, Okla., has been prominently mentioned as the site, and Shawnee, Okla., has also bid for the convention.

S. W. TEXAS MERGER TO MOODY-SEAGRAVES

SAN ANTONIO, Tex., Apr. 30.—Moody-Seagraves interests, who organized the Houston Gulf Gas Co. by purchasing the stock of the Houston Gas Securities Co. from the E. L. Phillips interests of New York, have acquired control of the big gas merger recently perfected in Southwest Texas. Total value of all the property in the merger is estimated at $38,000,000 and it has a total of 1,344 miles of main pipe line. An issue of $11,000,000 in bonds is being issued by the Houston Gulf Gas Co. to float the deal.

The E. L. Phillips interests of New York are represented by the Empire Power Corp., and this concern first acquired the Houston Gas & Fuel Co., which is the distributing system at Houston. There was an exchange of stock between it and the Houston Gulf Gas Co. which owned the pipe line delivering gas to the Houston Gas & Fuel Co. from the Refugio and White Point Fields. Empire Power Corp. acquired the Southern Gas Co. of San Antonio and its subsidiaries with pipe lines from the Callihum and Mirando and Medina County Fields and supplying San Antonio, Austin, New Braunfels, Seguin and other towns. Houston Gas Securities was the holding company of the Empire Power Corp. for these various enterprises.

Moody-Seagraves people organized the Dixie Gulf Gas Co. pipe line from northwestern Louisiana to Houston. By acquiring the stock of the Empire Power Corp. in the Houston Gas Securities Co. the Moody-Seagraves interests now control the entire property with a spread of natural gas lines from northern Louisiana to the southern extremity of Texas. The same interests recently bought the Border Gas Co. at Laredo and it is understood will extend the line on to Monterey, Mexico, and supply the various smelting works there and it is expected will acquire the Rio Grande Valley Gas Co. pipe line from the Mirando Field to Brownsville in the southern extremity of Texas and intervening towns The gas supply for this line is from the leases of

the merged properties in the Mirando Field.

Houston Gulf Gas Co. will own all the stock of the Houston Gas & Fuel Co., 93 per cent of the stock of the Southern Gas Co. of San Antonio which company owns 83 per cent of the Southern Gas Utilities, Inc., and 100 per cent of the Western Gas & Fuel Co. Houston Gulf Gas Co. has purchase contracts with the Dixie Gulf Gas Co. It also has leases or gas purchase contracts on 300,000 acres in Southwest Texas, owns 232 wells in 14 gas fields and reserves estimated at 275,000,000,000 feet. The 1,344 miles of pipe line does not include that of the Dixie Gulf Gas Co. from Louisiana.

The Moody-Seagraves interests have entered the sulphur business and Friday closed a deal giving them a substantial interest in the Duval Texas Sulphur Co. Daniel B. Cogswell, treasurer of the Moody corporation, has been elected secretary-treasurer of the sulphur company succeeding Craig Belk. By terms of the contract, operations of the sulphur company on the Palangana Dome in Duval County will use natural gas from the Houston line of the Houston Gulf Gas Co.

PETROLEUM EXPOSITION SPACE BEING TAKEN

Reservations for exhibit space at the 1928 International Petroleum Exposition, to be held in Tulsa, October 20 to 29, are already coming in, General Manager J. Burr Gibbons announces.

Replies have been received from 26 questionnaires sent to exhibitors in the 1927 show, and 22 are reserving space for the 1928 exposition. Five are requesting additional space. If this ratio continues, according to Manager Gibbons, 85 per cent of the 1927 exhibitors will participate in the coming exhibition. Many other 1927 exhibitors have advised that the matter has been referred to proper officials for decision and it is expected that by May 15 a considerable amount of space will be under contract. Many inquiries are being received from firms who were not in the 1927 show and from some who have never participated in the exposition.

President W. G. Skelly announces the election of two new directors, W. A. Schlueter of the Refiners Supply Co., and R. E. Day of the Magneto Ignition Corp., representing manufacturers and distributors of scientific and technical equipment used in the oil industry.

The Mid-Continent Oil Scouts & Land Men's Association, by resolution, pledged themselves to "support the International Petroleum Exposition in every way possible."

It is probable the American Association of State Geologists will visit the exposition in a body, since the annual field trip of the members will be held in Oklahoma. The probable dates are October 25, 26 and 27, with headquarters at Ardmore and a trip into the Arbuckle Mountains. Manager Gibbons and Charles N. Gould, of the Oklahoma Geological Survey, are joining in an invitation to the association to visit Tulsa and attend the exposition enroute to the Arbuckle Mountains trip.

The building and grounds committee, headed by D. D. Wertzberger, has made another inspection of the exposition plant and with the receipt of engineers' reports will shortly contract for extensive improvements in the grounds and buildings, increased power, gas and water facilities and numerous improvements to add to the convenience of exhibitors and improve facilities. Temporary offices for the exposition have been opened at 207-8 Bliss Building, Tulsa, telephone 4-5897.

PLUMMER ADDRESS DELAYED

FORT WORTH, Tex., Apr. 30.—The address to be delivered by Dr. F. E. Plummer, Fort Worth consulting geologist, on "The Relation of Production to Structure" scheduled to have been given at the University Club in Fort Worth, May 4, has been postponed until May 11.

SOUND FOUNDATION NECESSARY FOR PERMANENT CO-OPERATION

By R. S. McFarland*
President Twin State Oil Co. and President American Association of Petroleum Geologists

Co-operation is the dominant note of the oil industry today. During the past few years conditions in the oil business have been such that it has been necessary for the collective action of all persons in the business for their common benefit. The increased co-operation which is present in all branches of the oil business today can be traced from the co-operation of one individual with another, of various company departments with each other, of one oil company with another, and the co-operation of all companies in the industry with other industries and agencies outside of the business.

A few years ago general ideas regarding possibilities of production in certain areas, or regarding improved methods of producing or drilling wells were not often discussed. Most oil companies had the idea that co-operation with other companies in the exchange of ideas and information was not a wise policy and they did not give much encouragement to it. Not long ago it was difficult to get copies of the logs of wells which had been drilled and also other information regarding the setting of casing, amount of production, etc. It has only been within the past few years that many companies would allow their employes to let out any technical information for publication. The liberal co-operation today between the various companies in the exchange of data pertaining to development and production has undoubtedly resulted in greatly increased efficiency and has been of mutual advantage to all concerned.

Oil producers for the first time in history have learned to co-operate in restricting production. This is best illustrated in the Seminole Field with which we are all so well familiar. It is also seen in California where approximately 150,000 bbls. per day of production is shut in, and it is also seen in the great new fields of West Texas where concentrated efforts are now being made to apply the same restrictive methods. This policy of co-operative restriction has met and overcome almost insurmountable difficulties of a legal and political nature.

Must Have Solid Foundation

It is true that the oil industry has solved its problems in the past and it is beginning to realize today as never before that they are of a much more complicated and serious nature and must be met and worked out. The spirit of co-operation which is so helpful today must be based on a solid foundation and great care should be taken to see that it continues in a permanent way. It is better to make progress slowly and be sure that every move is certain to accomplish some good and meet with general approval, than to try to accomplish too quickly what might eventually be brought about with a little time. Today we have a period of overproduction; tomorrow the reverse may be true, but the next day may bring back the overproduction again. All the results of the past two years may be wasted if the combined actions of all the operators are not cemented into a spirit of co-operation that will be lasting and effective. There is always the danger that some few companies may become overzealous in their desire to co-operate to such an extent that an element of domination might enter which would be dangerous. The failure of the St. Francis Dam in California recently resulted because it was set on formations that were never suitable or capable of holding this enormous wall of concrete. No matter how perfect the cement and other materials used it was in danger of going out at any time. The oil industry should always keep in mind that the co-operative work which is being done today is building into the future and should be on a foundation that is permanent and lasting.

Credit to the Scouts

In searching for the agencies which have been responsible for this spirit of co-operation that has become so prevalent today and is growing rapidly, it is doubtful if any group of men have contributed more than the oil scouts. They were the first representatives of the various companies who got together in the field and exchanged information and opinions. Out of these early scout meetings which have been held for many years has grown a spirit of friendliness and co-operation which has largely contributed to make possible the accomplishments of the last two years.

The best example of efficient co-operation in the oil industry today is seen in the work of the scouts in the development of the Seminole Field. A comparatively small number of men by efficient co-operation in their daily work were able to report in to their various offices each day a mass of information such as has never been collected in any oil field before. This information included a detailed account of hundreds of drilling and producing wells as well as detailed records regarding methods of production, and the depths of various formations.

The scout, land and geological departments of an oil company are three departments that largely go to make up the exploratory part of the oil business. They are so directly related to each other in their operation that to be successful they must be practically regarded as one large department. Each is so dependent on the other that the closest co-operation must be secured in order that they may function properly.

Evolution of Scouting

The work of an oil scout today is far different from that done in the early days of the Pennsylvania and West Virginia fields by the pioneer scouts of the industry, including such famous characters as Tennent, McMullin, Cappeau, Boyle and many others. In those days the scouts were used primarily to get information on wells which was usually very difficult to obtain and which could only be secured, in many cases, by exerting an unusual amount of perseverance, keen wits, and ability to make friends with the drillers and production men. In these early days every wildcat well that came in had a big effect on the oil markets and quite frequently wells were faked for market plays, which required very clever work on the part of the scouts to get the true information. Probably many scouts are familiar with a book entitled "The Oil Scouts" by J. C. Tennent, undoubtedly the most famous of these early scouts, which was published in 1915 by the Derrick Publishing Co. This book gives some very interesting accounts of the work of these early scouts. At the present time, general reports on the progress of drilling and producing wells are readily obtained by a liberal exchange on the part of the scouts who each cover certain parts of their territory and report at check meetings held by them at certain specified times.

The duties of the oil scout of today have become extremely varied. They come in contact with so many different phases of land, geological and production work that, if they have a keen sense of observation, they have an opportunity to virtually become experts in all phases of the oil business. In many companies the scouts look after a considerable part of the leasing work, particularly the renewing of old leases. They are called on frequently to investigate titles, take right of way contracts and settle various kinds of minor claims. The production department frequently calls upon them to investigate methods of drilling in new localities. In addition to all of this they have their regular so-called scouting work of making an accurate weekly report of all drilling and producing wells in their districts. A well trained scout is an excellent judge of the potential production of a new field and the life and general possibilities of all areas in their districts.

Aid to Geologists

The oil scouts have been of inestimable value to the geological departments. In many companies the scouts collect most of the data on which subsurface geological maps are based. They have been largely responsible for educating the drillers to watch for certain formations, instead of merely making hole, and have thus been instrumental in helping to secure better well logs. In many companies the scouts are largely responsible for the collecting of well samples which are used by the geological department in making the determination of formations. Since the opening of the Seminole Pool, geological names of formations, such as Hunton, Sylvan, Viola, etc., are common to everyone in the oil business and many who are not in it. This has been made possible by the close co-operation of the scouts with the geologists and it has resulted in a far better understanding of the conditions affecting probable production.

These annual meetings are splendid mediums through which to promote a spirit of co-operation and make friendships which will be of lasting and permanent value. The motto of this organization, "efficient co-operation," was well selected. The work of the scouts in the land, geological and production departments today gives them an opportunity for such broad experience in this phase of the oil business that they are especially well fitted for many important positions being created as a result of new methods and practices which are in keeping with the progress that is now being made in all lines of the oil industry.

*Before Mid-Continent Oil Scouts and Land Men's Association, Guthrie, Okla., April 27, 1928.

ANOTHER SALT DOME IN SMITH COUNTY, TEXAS

MEXIA, Tex., Apr. 28.—Another sign of the existence of salt domes in Smith County was given when the Humble Oil & Refining Co. drilled into salt in its No. 1 Lassiter, Herring Survey, at 890 feet. The hole was abandoned, having fulfilled its mission of testing out seismographic data.

Two new operations were started in the East Central Texas area. Heine & Smith were ready to start drilling No. 1 Fannie Cox, Brown, Block 28, in Henderson County, and Reiter, Lewis and others were rigged up to start on No. 1 Ward, Varella Survey, Limestone County.

In Anderson County, the Humble Oil & Refining Co.'s No. 1 Mandlestam, Roberts Survey, was drilling in broken chalk at 2,976 feet. The top of the Pecan Gap was reached at 2,843 feet.

In Camp County, J. C. Roger's No. 1 J. C. Boyd, Montgomery County, was shut down at 1,185 feet in sandy shale.

In Cherokee County, Joe Walton's No. 1 C. F. Rucker, Reese Survey, was shut down in sand rock at 1,185 feet.

In Falls County, Groesbeck & Chisholm's No. 1 Marlin National Bank, Smith Survey, found the top of the Georgetown lime at 2,402 feet and was shut down at 2,442 feet.

In Limestone County, the Pure Oil Co.'s No. 1 Henry Unfried, Neil Survey, was drilling in sandy shale at 2,646 feet. This test got Austin chalk at 1,914-2,291 feet and salt water sand at 2,609-43 feet. C. F. Lytle was drilling below 1,000 feet in No. 1 Thompson, Varella Survey, and Yost and others shut down at 1,650 feet in No. 1 Poindexter, Flippen Block 17.

The Gulf Production Co.'s No. 1 McCammond, Moore Survey, Smith County, was drilling hard sand at 1,034 feet.

OKMULGEE ASSOCIATION NAME

Directors of the Okmulgee, Okla., District Oil and Gas Association have changed the name of the organization to the Independent Oil Association of Oklahoma. The association has a membership of 225.

CHICAGO MARKET FIRM; BUSINESS INCREASES

(Continued from Page 150)

agents who told the bidders that they had been able to secure better prices. It was assumed by some in the trade that some sellers bid their present costs expecting to be able to make profit later in the month on delayed purchases. But occasionally a sale has been made between dealers at figures that indicate that some of the car lot dealers have been able to secure quantities at less than the usual quotations for these and even heavier grades. There is no doubt now that considerable supplies have been received of various kinds and grades of West Texas fuel oils. Some of the steel companies are using the high cold test Borger fuel with its rather large sulphur content and say that they have learned how to use it and that they like it as it has great uniformity, great heating power and is a nice clean oil to handle. Dealers who have established connections with the producers of this fuel state that they have been educating their customers to use the oil and expect that large quantities will be used for the production of heat in large volumes by large industrial plants who are properly equipped or can be readily prepared for the satisfactory burning of this fuel. Large quantities of McCamey fuel oil have also been disposed of in this market. The only real objection that can be urged against this fuel is its odor and for many purposes the disadvantage is so slight that the advantages which include a favorable cost and a large supply outweigh the disadvantage of the odor. In fact there are many users who are quite warm in their praise of this fuel from McCamey crude.

In speaking of this fuel a dealer said that they would not think of advising its use for a home burner especially with an indoor tank but that it had been used successfully by many apartment buildings and other large structures where the higher stacks and the underground tanks cared completely for any disagreeable smell that might come from its use. Large contracts have been placed with refiners of these grades of fuel oil for the coming year and contracts have been signed by consumers of quantities such as the brick and steel makers as well as distributors, the latter planning to use the McCamey fuel oil much as they used Smackover when the oil was freely offered for sale in this market. Apparently the Smackover producers have felt the competition for their prices are some lower.

The consumption of fuel oil in this district and in the steel making centers to the east of this city is large right now. The local steel industry is rated as operating at 90 per cent of its capacity. The demand for autos is good, the plants report and they are working at a high level of production and this gives a lot of business to numerous makers of material and accessories.

Lub Oils Steady

Lubricating oils continue to be moved steadily and in large quantities. Refiners are shipping orders of various stocks and motor oils are being taken from compounders in car lots by the dealers. There is a good deal of grateful comment on the large and early movement of lubricating oils. But prices are very little better and competition is very keen for anything that looks like an order. Some very large business was placed very recently at prices and on terms that reflect a bad condition. Some attribute the deals to new processes that have reduced costs; others to sheer lack of salesmanship on the part of the seller and lack of backbone on the part of the refiner who accepted the business. While no specific reports have been made as to actual consumption of motor oils it is believed that it must be good as the demand for motor oils always parallels the consumption of motor fuels. The industrial demand is quite active. Compounders and refiners of high grade oils and greases report sales have been substantially better than for the same period a year ago.

New Sales Plan

The change made to go into effect on May 1 by the Standard Oil Co. of Kentucky has led to a revival of the reports that there would be other companies who would do the same. The Standard Oil Co. of Kentucky has announced a retu n to the former system of fixed prices and no quantity discounts with one exception. The new plan provides for a tank wagon price: for a service station price 2 cents higher than the tank wagon price; a discount of 2 cents from the tank wagon price to legitimate jobbers; sales to farmers at the tank wagon price with no discount for quantity; sales to large consumers at the service stations with a discount of 1 cent from the service station price. The Standard Oil Co. of Kentucky had been operating on a plan similar to that of the Standard Oil Co. of Indiana with it is understood slightly more liberal discounts in some instances. So far as can be learned at this time the Standard Oil Co. of Indiana is not considering a present change in its plan.

Several of the larger independent distributors have expressed themselves as believing that a tank wagon price increase would be most unfortunate at the present time. Unless the refining market immediately followed the increase in the price to the consumer, a wider range between the cost to the dealer and his selling price would be caused which would afford opportunities for profitable price cutting. Of late years a wide margin for the dealer has been the cause of extensive price cutting, a result due to the excessive competition between station owners for a larger gallonage. It is a condition common to all industries selling to the general public that with unrestricted competition the price level tends to seek the lowest level at which business can be continued. The consuming public seeing only the immediate saving, favors unrestricted competition and its influence is seen in the many acts of state and national legislative bodies tending to prevent any "restraint of trade," as the common expression runs. Older countries with a better understanding of trade are not so impressed with the value to the consumer of the greatest possible competition between dealers in the same line of industry or commodities. In the local fuel oil market the distributors have recently staged a price war and heavy fuel oil is being distributed here at 4½ cents a gallon by at least one of the larger operators and another is willing to make contracts from this date until November 1 next, at 5 cents per gallon. At 75 cents a barrel Group 3. the laid down cost of a barrel of 18-22 fuel oil would be $1.653 and the returns on a full 42 gallons at 4½ cents would be $1.89 per barrel leaving the distributor a margin out of which to pay all sales and delivery costs and overhead charges of 24 cents per barrel or a trifle over one-half cent per gallon. At 5 cents per gallon the profit, gross, on a barrel would be 45 cents, or a little more than 1 cent per gallon which is not a price that would build up a substantial profit. There has been a great deal of price cutting in the fuel oil distributing business in this city all winter and it is the announced purpose of one of the parties to this price war to give some of the trade an object lesson. This concern has other lines from which it is expected that a sufficient profit will be made to carry the business over the summer without loss. It is hoped that next winter there will be a more stable market as a result of this object lesson on how not to make a business profitable.

MUSKEGON FIELD

(Continued from Page 146)

cased off, added about 1,200,000 feet per day. The Dixie Oil Corp.'s No. 1 Reeths gasser, SW NW Section 9, came in with an initial flow of 4,000,000 feet and has since been increased to 4,500,000. The local gas company will have these two wells from which to draw its supply. Only 500,000 feet per day will be needed at first, however, according to present plans. R. B Brown, of Milwaukee, president of the American Light & Traction Co., is expected here next week for a conference on the matter with Frank L. Maire, president of the Lima Oil Corp., and officials of the Muskegon Oil Corp. and the Dixie Oil Co.

During the week tragedy entered the Hinz family, German pioneers who own about 275 acres in Sections 4.8.9 and 10, and took the life of the father, Ludwig Hinz, just as he was about to be made comfortable for the rest of his days by the discovery of oil on much of his property. Most of the land is within the limits of the present field so far as it has been developed. One producer has been brought in upon Hinz property and two more are drilling.

The Ottawa Development Co.'s first test well near Holland, Mich., is reported to have reached a depth of 2,000 feet this week without the discovery of even a show of oil. C. L. Bullock is owner of the drilling rig being used. The company will drill until either oil or salt water is encountered. It is planned to drill a second test near Waverly.

No new locations were announced in the Muskegon Field during the past week. Little development is expected until construction of a road now being built to the north bank of the Cedar Creek branch of the Muskegon River by the Lima Oil Corp. near its big gasser has been completed It is planned to transport the rig over the river branch on a scow which is now being conditioned for the work.

The Lima Corp. has recently acquired leases on the property of Louis P. Haight, including a large acreage on the river flats which can be reached only by using the scow. Frank N. Steele, Muskegon veterinary, has one-eighth working rights on all of this acreage.

DAVIESS COUNTY MAP

FRANKFORT, Ky., Apr. 28.—Announcement has been made by Dr. W. R. Jillson, state geologist, of the release of a new areal geological structural and oil and gas map of Daviess County, Kentucky. This district, traversed by the principal pipe line of western Kentucky, is in the heart of the new oil and gas field now rapidly developing around Owensboro.

SIDNEY POWERS RECOVERING

Sidney Powers, chief geologist of the Amerada corporation, who has been ill since January, has returned to Tulsa, following an operation at a St. Louis hospital. He is recovering slowly.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 104)

A. L. Pattison's No. 1 Patton ..... Slight show gas, 2,115-30 ft; fish. 2,410 ft.

LAMB COUNTY

Dan Freel et als' No. 1 Ellwood, CW¼, Sec. 9, Blk. T, T. A. Thompson Sur. ..... Spudded and S.D.

Spade Oil Co.'s No. 1 Andrews, 1,085 ft. from N line and 200 ft. from E line, Labor 23, League 643, (5 miles NE of Littlefield) ..... Spudded and S.D.

Tolbert & Simms' No. 1 Ellwood, NE SW SW, Sec. 14, Blk. B, R. M. Thompson Sur. ..... 712 ft; small show oil and hole full wtr.; dry, 1,504 ft; temp. abd.

LIPSCOMB COUNTY

McCorkle's No. 1 A. Barton, NE cor. SW SE, Sec. 104, Blk. 43, H.&T.C. Sur. ..... Wtr. in lime, 4,126-40 ft; 6-in. set, 4,155 ft; 5 3/16-in. csg. set, 4,420 ft; S.D., 4,775 ft.

Ruby Oil Co.'s No. 1 C. W. Jones, NE cor. SW, Sec. 100, Blk. 43 ..... Show oil, 3,520 ft; T.A. 3-24-31, at 4,380 ft; now drlg. 4,415 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles ranch ..... Small show oil, 1,133-40 ft. in sand; S.D., 2,730 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 1 Thompson-Amarillo, C, Sec. 32, Blk. 26, E.L.&R.R. Sur. ..... Cmtng. 12-in. csg., 1,320 ft; U.R. 10-in., 2,510 ft.

Amarillo Oil Co.'s No. 1 J. T. Sneed, Jr., C W 640 A, Horace Hall Sur. ..... Rig.

Amarillo Oil Co.'s No. 1 D. P. Seay, C, Sec. 85, Blk. 2, G.&M. Sur. ..... Set surface pipe, 750 ft.

Amarillo Oil Co.'s No. 1 L. H. Crawford, C SE, Sec. 26, Blk. P, M., E.L.&R.R. Sur. ..... Fish. for bailer, 1,200 ft.

Prairie and Shamrock's No. 2 Gober, Sec. 16, Blk. M-21 ..... T.D., 2,520 ft; recmtd. csg., 2,491 ft.

MOTLEY COUNTY

Explin. Co.'s No. 1 Burleson ..... Spudded and S.D.

Explin. Co.'s No. 1 Tillson ..... S.D., 750 ft. for repairs.

Explin. Co.'s No. 2 Matador Land & Cattle Co., C SW, Sec. 37, John Gibson Sur. ..... S.D., 1,245 ft.

Explin. Co.'s No. 3 Matador Land & Cattle Co., C SE, Sec. 21, Blk. O-2, W.T.R.R. Sur. ..... Rig on ground.

Matador Oil Corp.'s (formerly Wheeler et als') No. 1 C. D. Bird, SW cor. NW, Sec. 4, Blk. S, Stephens Sur. ..... Fish., 555 ft.

OCHILTREE COUNTY

W. G. Burton's No. 1 Strickler ..... S.D., 4,010 ft.

POTTER COUNTY

Amarillo Oil Co.'s No. 1 Masterson-K, C SW, Sec. 85, Blk. O-18, D.&P.R.R. Sur. ..... Recmtng. 12¼-in. csg., 1,000 ft; show gas, 1,650 ft; T.D., 2,440 ft; S.D; 10,000,000 ft. gas showing little wtr., 1,650-80 ft. and 2,215-90 ft; run. 6-in., 2,440 ft; drlg., 2,703 ft.

Amarillo Oil Co.'s No. 2 Fuqua, C NW, Sec. 18, Blk. 6, B.S.&F. Sur. ..... Repairing rig, 3,184 ft.

Amarillo Oil Co.'s No. 6 Lee Bivins-A, NW cor. NW, Sec. 32, Blk. B-11, E.L.R.R. Sur. ..... Rig.

Amarillo Oil Co.'s No. 1 Lee Bivins-E, C NW, Sec. 37, Blk. O-18, D.&P.R.R. Sur. .. Rig.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Mrs. H. Ledrick & Sons, Sec. 7, Blk. 5-A ..... Show gas, 4,990 ft; show oil, 4-992 ft; csg. set, 4,992 ft; T.D. 5,153 ft; set 3-in., 5,155 ft; S.D. 5,240 ft.

SWISHER COUNTY

Adams & Pritchard's No. 1 Crawford, Sec. 39, Blk. W-1, T.T.R.R. Sur. ..... S.D., 440 ft.

WHEELER COUNTY

Angus et als' No. 1 T. Trostle, C NE NW, Sec. 90, Blk. 17, H.&G.N. Sur. ..... S.D., 800 ft.

Byrens et als' No. 1 Johnson, SW cor. NE, Sec. 88, Blk. A-5, H.&G.N. Sur. ..... Run 8-in., 900 ft. and S.D.

Chapman & Morgan's No. 1 Otis Hatcher, NW cor. SW SE, Sec. 62, Blk. 17, H.&G.N. Sur. ..... Rig.

Clark et als' No. 1 Mrs. J. Purcell, C NW SW, Sec. 52, Blk. 17, H.&G.N. Sur. ..... Rig on ground.

Hatcher et als' No. 3 fee, C SW SW, Sec. 80, Blk. 33, H.&G.N. Sur. ..... Drlg., 1,275 ft; show gas, 1,270 ft; run. 10-in., 1,400 ft; drlg. 1,410 ft.

Rook et als' (was Foster et als') No. 1 S. H. McDonald, SE cor. NW SW, J. N. Lindsay Sur. ..... T.L., 2,040 ft; S.D., 2,607 ft.

L. W. Rook's No. 1 M. Nelson, C SW NE, Sec. 5, Blk. 24, H.&G.N. Sur. ..... Spud.

L. W. Rook's No. 2 A Smock, C SW SE, Sec. 5, Blk. 24, H.&G.N. Sur. ..... Rig.

Vaughn et als' No. 1 B. Woodley, C SW NW, Sec. 21, Blk. 24, H.&G.N. Sur. ..... Rig.

Vaughn et als' No. 1 A. Wood, C NW SW, Sec. 21, Blk. 24, H.&G.N. Sur. ..... Location.

Kaufold et als' No. 1 E. R. Wallace ..... S.D., 300 ft.

Wischkamper's No. 1 Brown-Young, C NW NE, Sec. 55, Blk. 23, H.&G.N. Sur. ..... Cellar.

Wischkamper's No. 1 Gooch-Close, Sec. 81, Blk. 23, H. &G.N. Sur. ..... Spud and S.D.

Pete Woodley's No. 1 J. Boyle ..... Show gas, 1,700 ft; run. 8-in; T. D., 2,217 ft; 1,000 ft. oil and considerable wtr. 2,173 ft; fighting cave. 2,217 ft; cave let in wtr. and shut off oil.

Proving Mighty Popular

The
B & R WIRE LINE DRILLING CLAMP

Seldom has an Acme Tool met with such swift success as has this clamp. It has not long been known in Texas and Oklahoma, yet it is making friends there and elsewhere with a rapidity unusual in any product in our 27 years of manufacturing to meet the needs of drillers and fishermen. Its outstanding simplicity and its adequate strength at all depths are basically responsible for its mighty popularity.

In this clamp, the toggle principle secures the greatest leverage known.

It clamps without damage to the wire line strands, yet holds securely.

It can be adjusted without danger of jamming fingers and thumbs.

It has only a few simple, rugged parts and not a single part has ever been returned or broken.

Rugged, yet light—simple, yet powerful—
—easy to operate—it is

"The simplest clamp with the greatest gripping power"

1. Slips
2. Links
3. Left Arm
4. Right Arm
5. Back Link
6. Slip Retainers
7. Bolts
8. Back Clamp Pins and Clevis Pin
9. Clevis
10. Tee Screw

These clamps cost you nothing—they pay their way in time saved and satisfactory service. And they prolong the life of your drilling lines.

Once you have used the B & R Wire Line Drilling Clamp, you will appreciate what it means to have the best clamp available among your tools. Better order one today—there's a stock handy. Order from the nearest distributor listed below.

Sold Under a 90 Day Guarantee

ACME FISHING TOOL CO.
Parkersburg, West Virginia.

Export Office: 136 Liberty St., New York City, N.Y.

Warehouses and Distributors:

Acme Fishing Tool Company—Parkersburg, W. Va.
Acme Fishing Tool Company—Omulgee, Okla.
B. & A. Specialty Company—Tulsa, Okla.
Acme Fishing Tool Co. of Tex.—Whittenburg, Tex.
Acme Rental Tool Service Company—Graham, Tex.
Logan Foundry & Machine Company—Logan, Ohio.
The Birnie Oil Tool Works—Owensboro, Ky.
Acme Tool Co.—Breckenridge, Tex.
Acme Tool Co.—Albany, Texas.
Acme Tool Co.—Brownwood, Texas.
Acme Tool Co.—Cross Plains, Tex.
Acme Tool Co.—Fry, Texas.
Acme Tool Co.—McCamey, Texas.
Midland Iron Works—Billings, Montana.
Great Northern Tool & Supply Co.—Kevin, Montana.
Great Northern Tool & Supply Co.—Kemmerer, Wyo.
Great Northern Tool & Supply Co.—Cody, Wyoming
Elms Brothers & Company—Waynesburg, Penna.
Lloyd, Smith Company—Bradford, Penna.
Acme Tool Co.—Pyote, Texas

Of Interest to Sales Departments

UNION OIL MAKES FIRST SHIPMENT TO ANTIPODES

LOS ANGELES, Calif., Apr. 28.—The Union Oil Co. of California has just made its first shipment of gasoline to the Antipodes, the initial consignment of 74,000 bbls. of gasoline leaving Los Angeles Harbor for Australia in the tanker La Brea. The Union Oil Co. and the Atlantic Refining Co. joined hands several months ago for the purpose of developing foreign trade in Australia and New Zealand, the Atlantic Union Oil Co. being organized for that purpose. The Atlantic Union completed its dockage facilities at several Australian ports on April 1 and future shipments will undoubtedly become quite regular from now on.

No official confirmation has been made of the policy to be followed but it is reported that the new company will handle Union gasoline and Atlantic Refining Co. lubricating oil. This report is partially confirmed by the recent arrival in California of the R. D. Leonard with a cargo of lubricating oil from Philadelphia. No allocation of tankers has yet been made but a second cargo will be dispatched to Australia about the middle of May with gradually increased shipments as business warrants. The Atlantic Union Oil Co. expects to secure at least 25 per cent of all Antipodean trade consisting of gasoline, kerosene, lubricating oil, Diesel and fuel oil and if this business comes up to expectations it is quite probable that refining facilities will eventually be erected at some strategical point in Australia.

The Standard, Shell, Atlantic Refining Co. and others have been marketing for some time in this area and, while competition will naturally be keen, economists are firmly convinced that Australian and New Zealand markets are the most favorable in existence with an exceptionally good outlook for the future.

INCREASE OF 5 PER CENT IN AUTO PRODUCTION

Motor car production for the first quarter of 1928 exceeded the production of the same period a year ago by approximately 5 per cent and a review of production activities according to Automotive Industries promises is very optimistic regarding the outlook over the balance of the year. The program of automobile production is being closely watched by refiners and marketers for this factor will have a great influence in the consumption of gasoline. The program of "Greater Gallonage", improved roads and greatly increased production of the lower priced cars promise to make 1928 a banner year for gasoline consumption.

Ford is gradually getting into larger and larger production, as is generally known, but had not reached a sufficiently large volume at the end of March to come anywhere near meeting the accumulated or even the current demand for his products. Consequently, a better picture of the general progress of the industry is available for the moment from a consideration of performance of N.A.C.C. members with Ford excluded than from discussion of total 1928 figures as compared with totals in 1927.

On this basis the sound foundation on which current optimism is based is revealed by the fact that first quarter passenger car production this year exceeded that of last by something like 26 per cent, while truck output for the same period was 19 per cent in excess of last year's first three months.

Short Talks on Refinery Products

By W. T. Ziegenhain

HOW ABSORPTION OIL IS MADE

There are several grades and kinds of absorption oil depending upon the use to which they are put, but chief of these, in quantity at least, is that used for natural gasoline plants for the absorption of natural gasoline vapors. The wet gas as produced in the field is bubbled through the oil at the gasoline plant and the gasoline absorbed. Absorption oil has a consistency similar to a very light lubricating oil and comes between kerosene and gas oil in the series of products distilled from the crude.

The use of the oil explains why it must be processed with such extreme care at the refinery. In the gasoline plant it is used to absorb the gasoline vapors as described before and after the oil becomes saturated with gasoline, the mixture is heated and the gasoline distilled off. Then the oil is used again as an absorbing medium and this cycle continues indefinitely or until the oil becomes contaminated. Because the oil and gasoline mixture is distilled in the presence of steam and water vapor and used over and over it must not show a tendency to form a permanent emulsion. An oil that would readily emulsify would have to be thrown away after using once and this would be a very expensive waste. The oil must not only be nonemulsifying but because it is heated and the gasoline distilled off, it must not contain low boiling point fractions that would tend to distill off with the gasoline. For this reason the oil must have a high initial, a high 5 per cent distillation temperature and a high flashpoint. All of these specifications aim to effect the same thing, namely, to show the presence of light fractions but all are usually specified, serving more as a check on the other results.

Method of Processing

With these conditions to be satisfied, the refiner takes unusual care in the processing of the oil. The raw fraction is taken from the crude right after the kerosene cut, and in most cases it is necessary to redistill the raw oil in order to eliminate the very light and very heavy fractions to get a narrow cut, or an oil of a very narrow range of distillation temperatures. An initial of 480 degrees Fahrenheit and an endpoint of 670 degrees Fahrenheit are typical requirements. Thus the total distillation range of the oil must be within 190 degrees Fahrenheit.

After the raw oil has been fractionated sufficiently to be within this range, it is chemically treated with sulphuric acid and then neutralized with caustic soda and a doctor solution to remove impurities.

Then the oil is allowed to bleach or settle in shallow tanks where all traces of water drop out and the slight amount of caustic held in suspension tends to remove any traces of slow reacting sulphurous impurities. Then the oil is ready to be charged to the filters, which are simply large open steel tanks containing fuller's earth or some other suitable adsorbing material. The oil percolates through the earth and the slightest traces of tarry matter, caustic or water are removed and the oil is rendered bright and almost colorless.

The filtering treatment improves the nonemulsifying qualities of the oil. Many tests are taken during this process in order to check the efficiency of this operation. Sometimes it is necessary to refilter the oil, not because it fails to meet a certain color specification but to meet the strict emulsion test requirement. The oil is then stored in watertight tanks. Care is taken not to mix oils made from different crudes or to mix an old batch with a new one, without first testing the mixture on a small scale in the laboratory.

Many times two batches of oil, each passing a good emulsion test, when mixed produce a very bad emulsifying oil. For this reason, the gasoline manufacturer runs into trouble sometimes when he makes changes in the source of his material indiscriminately. These points are usually fully appreciated by the manufacturer but must be watched. As complaints are made, the first tendency is to condemn the last car of oil received, while a check by the refinery will show it to be fully up to specifications. A good practice is to make a laboratory mixture of the oil in use with the new oil and if this shows a good emulsion test, add the new oil to the system slowly.

BUSINESS IS GOOD?

MOSCOW, Apr. 27.—The capital city of Soviet Russia, which is scrambling to become a modern industrial power, has its first gasoline filling station with an automatic pump.

Business is slack, however. There are only 1,000 automobiles including trucks and taxis in Moscow. A new private car has been added to the lone flivver which up to now bumped over the ice and snow covered streets as the only strictly private automobile in town.

The manager of the filling station said he sells about 20 gallons of gas a day at 50 cents a gallon. An average of four cars drive up to the pump in 24 hours.

NEW TYPE OF GAS ENGINE SOON TO REPLACE STEAM

A new development in power generation tending to exert a great influence to increase the consumption of gasoline was shown by the Mack Trucks, Inc., at New York recently. The power unit shown is a combination of an internal combustion motor, an electric generating system and direct driving motors. The engines are so constructed as to be replaced almost as easily as changing a tire. The advantages of this type of engine are most pronounced when used in light transportation service requiring a number of stops, such as interurban or bus service.

When applied to busses, the power plant is mounted crosswise of the vehicle in the rear, eliminating the customary hood. Applied to street cars, the power plant is mounted similarly across the back of the car. Such cars can reduce greatly the cost of operation, since the power house and trolley wires are eliminated. This is expected to restore life to the suburban trolley, which can be operated by these units at about two-thirds of the cost per passenger seat of the cost of busses. This cheapening is due to the increased size of vehicle which can be moved on rails with the same power, as compared with movement on rubber tires.

An important application is expected to be to railway transportation. More than one power unit can be used, ranging from what seems to be a single day coach moving along the rails without the help of a locomotive to the six-car commuter train in which the cars at each end of the train contain power units. By means of a novel system of remote control, these units can be operated by an engineer at either end of the train.

Such railway equipment operates at great savings over trains drawn by locomotives. For a 60-passenger single-engine car the cost will be 25 cents to 30 cents per mile; for a 2-car train the cost is 35 cents to 45 cents per mile; for a 6-car train it is $1 per mile. These are to be compared with locomotive costs of from $1 to $1.50 per mile. There has been devised a unit called "the Amalgamated Train," containing in one car a locomotive, a baggage space, a smoking compartment, a passenger compartment and even, if desired, a mail compartment.

Actual locomotives driven by these unit power plants are expected also to replace steam locomotives for handling freight on branch lines or railways of relatively small traffic, the "Amalgamated Train" or other rail car being used for passengers. By thus eliminating necessity for water towers, ash pits, coal pockets, round houses, repair facilities, etc., many railway branches now profitless or inoperative may be converted into profitable enterprises.

FOREIGN COUNTRIES TO SUPPLY FRENCH NEEDS

At present about 60 per cent of the refined oils imported into France is handled by foreign-owned companies, principally American, British and Anglo-Dutch owned under French incorporation according to Commerce Reports.

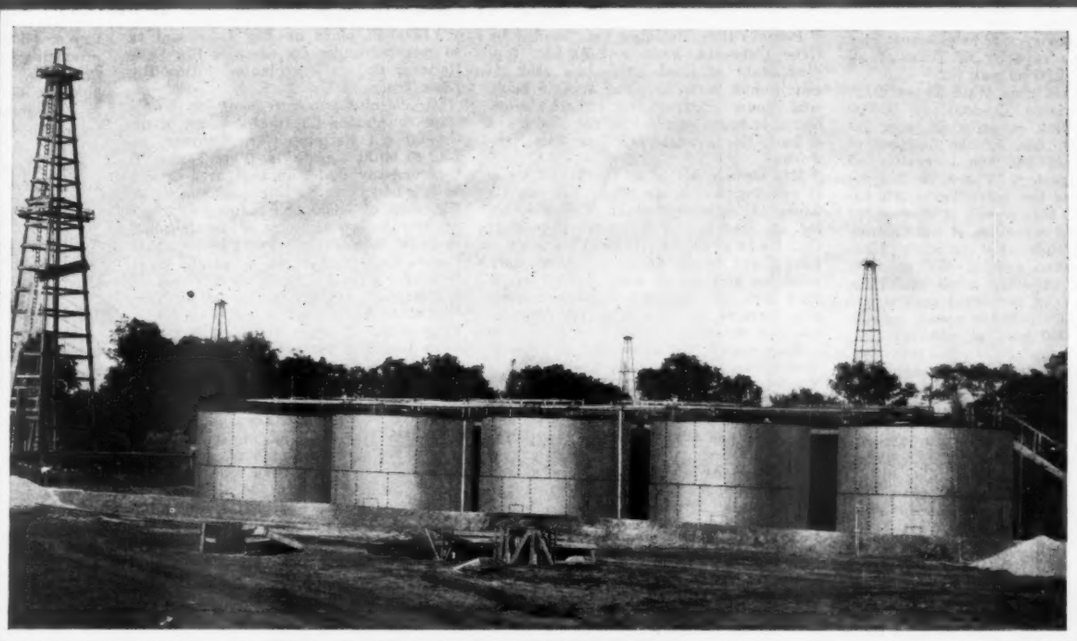
Of the rest about half is imported by French-owned companies and the other half by brokers who sell to them or to jobbers. The United States supplies two-thirds of the gasoline and other refined mineral oils, three-fourths of the lubricating oils, and one-fifth of the petroleum residues.

Gasoline, kerosene and lubricating oils are imported in tank steamer lots, and lubricants also come in 50-gallon drums. One of the largest importing companies, a branch of an American producing concern, sends its lubricating oils in ship loads to reservoir tanks at Antwerp, from which they are brought in metal drums to France for distribution in the customary two-liter tins.

There are five large importing companies for the gasoline trade, and 10 or 12 jobbers. The latter sell to enterprises operating fleets of motor cars or trucks, such as taxicab companies, department stores, and large wholesale firms. The lubricating oil trade is more diversified, being shared by 12 importers and 50 or more jobbers. Domestic importing companies are now required to carry a reserve equal to four months' needs.

It is estimated that 25 per cent of the retail trade in gasoline is conducted by importing companies through the installation and maintenance of filling stations. The other 75 per cent is carried on by garages and individual firms, supplied with pumps under exclusive contracts with the companies which furnish their gasoline. The pumps are manufactured in France, and are adjusted to measure by quantities of 5 liters (1.32065 gallons).

On the Spencer Lease~ at Earlsboro~Okla.



These are 1,000-barrel Butler Bolted Tanks.

These Butler Bolted Tanks are owned by the Continental Oil Company.

The erection gang in many cases needs only *one* day's time or less to put up a Butler Bolted Tank! Only *one* trip to the field then is necessary. There's time and money saved!

That's why you hear of Butler Tanks standing in *one* row nearly one-quarter of a mile long! Speed? You get plenty of it with Butler Bolted Tanks.

The holes are where they should be. They are accurately placed and have accurate size. Mammoth machines pierce perfect holes in Butler sheets.

The sheets are large. Fewer sheets are needed to a tank. Less handling is necessary. Fewer seams mean fewer chances for leaks.

All sheets are blue annealed copper steel or 3/16" and heavier tank plates for extra strength and rigidity where needed.

Protects Your Men

The Butler Clean-Out Opening is large—measuring 2'x4'! It is not a back breaker. It is convenient for an entire cleaning out of the tank. Because of the size of this opening the work can be done easily, quickly and more safely.

All bolts are removable from the outside!

Speed in delivery and speed in erection are yours by calling on Butler and its efficient distributors. Write for the "Oil Field Tanks Catalog" and get all the interesting details.

Any kind of welded tank made to your specifications.
Also bolted tanks up to 25,000-barrel capacity.

These reliable dealers erect Butler Bolted Tanks and are ready to serve you speedily:

M & V Tank Co. at Wichita Falls, Olney, Nocona, Cross Plains, Albany, Cisco, Isom and Brownwood, Texas.
Drane-Humphrey Co. at San Angelo, Big Lake, Pyote and McCamey, Texas, and Roswell, New Mexico.
Drane Tank Co. at Tulsa, Holdenville, Seminole, Hallett and Shawnee, Oklahoma; Eldorado and Madison, Kansas.
M. A. Trimmer at Blackwell, Oklahoma, and Oxford, Kansas.
Keyes-Butler Tank Co. at Casper and Cody, Wyoming.
Thomas Moran at Oil City, Shreveport and Georgetown, Louisiana.

TRADE STEEL BUTLER PRODUCTS MARK

Butler Manufacturing Co.

Kansas City, Mo. Minneapolis, Minn.

Butler Products include: Ready-Made Steel Buildings, Cans, Funnels, Buckets, Measuring Pumps, Truck Tanks, Underground Tanks, Storage Tanks, Bolted Tanks, Etc. Also pipe that can be used as conduit, double well casing or in other ways.

West Texas Expands in Refining

Present Capacity of Operating Refineries Exceeds 30,000 Bbls. Daily. Other Plants Under Construction or Proposed

By James H. Dameron
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Apr. 28.—A refinery building campaign which usually is attendant in the opening of isolated flush areas was slow in gaining momentum in West Texas. In recent weeks, however, the program has taken a belated start and moved forward with vigor. As a result, close to 100,000 bbls. of refining capacity will have been added to the refining capacity of Texas if all programs are carried out.

At the present time West Texas proper has a refining capacity of 32,600 bbls. daily. This capacity is being increased 20,000 bbls. by the building of two new plants and the increasing of capacity of another. There is, in proposed refineries for West Texas, an additional 20,000 bbls. which is represented in the combined capacities of eight plants. In addition to that there are other plants being constructed and in the proposal stage, located in other areas of Texas, that will have an estimated capacity of well over 30,000 bbls. to round out the potential 100,000 bbls. of additional capacity for Texas.

It is probable, at this time, according to authorities, that some of the proposed eight plants for West Texas will not be built. To offset this, however, there are three or four other interests considering the feasibility of building plants in West Texas.

The accompanying table gives the present refineries in operation in West Texas; proposed plants for West Texas and other Texas territories and those being built in West Texas and other Texas areas.

Bluebonnett Plant

Bluebonnett Oil Refining Co.'s 4,000-bbl. plant at Wickett was the first built in close proximity to the Hendricks Field in Winkler County. It is a topping plant built with new and reconditioned equipment. Crude to this plant is being supplied by the Southern Crude Oil Purchasing Co. and pumped to the refinery through a subsidiary pipe line. The tops are being sold to other refiners and the fuel is being sold on a railroad contract.

John T. Withers, Jr., and B. L. Woolley, organizers of that company, are associated with W. B. Hassett in the Wickett Refining Co. That company is building a 2,500-bbl. capacity skimming plant at Wickett which adjoins the Bluebonnett plant. Some of the tops from the Bluebonnett plant will be run through the Wickett company plant and the remainder of the capacity will be reserved for raw crude. The plant is being built with new and reconditioned equipment and is expected to be in operation by May 10.

Bluebonnett officials are further strengthening their position in West Texas, it is seen, as a result of their proposal to build a 3,000-bbl. skimming plant at Midland. In this proposed enterprise the Bluebonnett will be associated with the Rio Grande Oil Co. of El Paso. While the plans have not advanced beyond the proposal stage it is planned to use Hendricks crude.

Col-Tex Refining Co.'s 8,000-bbl. skimming plant at Colorado, Tex., was built some time ago by Anderson & Prichard. It is running Mitchell County crude and making gasoline, kerosene, fuel oil and other products.

Humble's Plant Largest

Humble Oil & Refining Co.'s topping plant at McCamey is being enlarged at the present time and will have a total capacity of 21,000 bbls. daily when completed. At the present time the plant is running around 13,000 bbls. The tops from this plant are sent south through the Humble company's affiliated pipe line company and the fuel is used to fill railroad contracts. Yates Pool crude is being run to the stills.

Odessa Refining Co. just recently started running crude to its 300-bbl. topping plant at Odessa. Crude for this plant is being shipped in tank cars and is from the Hendricks Field. It was built with reconditioned material.

Pecos Valley Refining Co., headed by Gene Griswold, built a 2,500-bbl. topping plant at Pyote with new and reconditioned material. The fuel is being sold under contract as are the tops. Crude is being supplied by the Texon Oil & Land Co. through their line from Hendricks.

Rio Grande Refining Co. at El Paso, is running Hendricks crude through its 2,500-bbl. skimming plant. Crude is being supplied by the American Petroleum Co., being pumped through that company's line to the Texas & Pacific Railroad and shipped on west to El Paso in tank cars. Bluebonnett company is shipping part of the tops from its plant to the Rio Grande company.

Sweetwater Refining Co. at Sweetwater was built by Jack Travis of the Western Oil & Refining Co., Tulsa. The plant is a 300-bbl. topping plant made with reconditioned equipment and is getting its crude through contract with the Marland Oil Co.

The San Angelo Refining Co., at San Angelo, is another of the older plants in West Texas. It is a 2,000-bbl. capacity skimming plant and is reported to be operating with Crane County crude. The San Angelo organization has built up an extensive distributing system in West Texas and recently strengthened its market outlet through the purchase of several filling stations.

Proposed Plants

The above embrace the operating plants in West Texas and their combined capacity is 32,600 bbls. There are 16 proposed and building plants in Texas at the present writing and all but three are being built in West Texas as a result of the flush production in that area.

Reese S. Allen, Wichita Falls, Tex., and associates are considering the feasibility of building a 5,000-bbl. capacity skimming plant at Sweetwater in Howard County. It is planned to build a 56-mile 6-inch pipe line from the refinery to the Chalk Field in the southern part of the county. Crude from that area is sweet crude. A few producers in the Chalk Field are reported to be interested in the project. The plant is to be built with new and reconditioned equipment.

Roy and E. B. McKee, of San Angelo, Tex., and Tulsa, respectively, announced sometime ago their intentions of building a 1,000-bbl. plant at Big Lake and to be operated under the name of Big Lake Refining Co. It was planned to use Big Lake crude.

No definite announcement has been made concerning the final decision of the Crystal Oil Refining Corp., Shreveport, La., to build a plant in West Texas. If the company builds in that area it will build a new complete skimming and cracking plant of 5,000 bbls. capacity. Plans are to run Hendricks crude and the plant is to be located either at Pecos City in Reeves County or at Monahans in Ward County.

Everybody Oil & Gas Co., Dallas, Tex., has started work on a 1,000-bbl. skimming plant at West Dallas. That company bought a plant in Greenville, Tex., that had been shut down for some time and will recondition it. Tops from the Bluebonnett plant at Wickett will represent part of the runs through this plant.

Golden West Oil Co., of San Antonio, is building a 300-bbl. lub plant 40 miles west of San Antonio and will run crude from the Ina Pool in Medina County. This crude has no gasoline content and tests 60 per cent lub, 15 per cent gas oil and 25 per cent fuel oil, asphalt and loss. The plant will be built with reconditioned equipment.

Plant on Coast

Humble Oil & Refining Co., Houston, Tex., is building a skimming plant at Ingleside Harbor on the Gulf Coast with a capacity of 10,000 bbls. daily. According to reports this plant will operate on West Texas crude. The Humble Pipe Line Co.'s main line system to the coast from McCamey, terminates at Ingleside.

Pampa Refining Co., organized by Reese S. Allen and associates, is nearing completion of its 2,000-bbl. skimming plant at Pampa, Tex., in the Panhandle. The plant is being built with new and used equipment. It is planned to have it in operation May 15. Toronto Pipe Line Co. will supply the crude from the Bowers Pool in Gray County.

Pasotex Refining Co., a subsidiary of the Standard Oil Co. of California, is making rapid progress in the building of its 10,000-bbl skimming plant at El Paso. New equipment is being used. Crude to this plant will be supplied by an associated pipe line company which is building a line into the Hendricks Field from El Paso. California Co., Texas producing company of the Standard Oil Co. of California, recently acquired 5,000 bbls. of daily production in Hendricks by the purchase of a producing property.

Tonkawa Plant

The site has been cleared for the Tonkawa Refining Co.'s 1,500-bbl. skimming plant at Pyote. Gene Constantin organized the company and will move the equipment from the Tonkawa plant at Wichita Falls to Pyote, according to field reports. Hendricks crude will also be run through this plant and will be supplied by the Texon Oil & Land Co.

Joe and Louis Olson, El Dorado, Ark., are planning to build a skimming plant at Wickett and operate it under the name of Magna Refining Co. The plant will have a capacity of 3,000 bbls. daily and will operate on Winkler County crude.

Motor Fuel Products Co. has started construction on a 1,750-bbl. capacity Jenkins cracking plant at Laredo. This plant will be supplied with Laredo crude and construction is expected to be completed by early fall.

Arthur E Stilwell, Kansas City, Mo., is considering building a 2,000-bbl. vapor phase plant at Port Arthur, Tex., at a cost of $350,000. New equipment is to be used and it will be built and operated under the name of Stilwell Benzol Refining Co.

J. D. Wrather, Amarillo, Tex., and associates have plans to build a 1,500-bbl. capacity skimming plant at Pyote. It is reported Wrather has a two-year contract with the Texon Oil & Land Co. for a crude supply which will be operative August 1, 1928. Equipment is to be reconditioned and new.

There are a few other interests considering building plants in West Texas. However, their plans have not reached the stage where any information is being made known.

OPERATING PLANTS IN WEST TEXAS

Company Name—	Plant Location	Capacity	Type	Crude Supply From Whom	Products and Disposition
Blue Bonnet Oil Ref. Co.	Wickett, Tex.	4,000	Topping	Hendricks, Southern Crude	Tops to refineries and fuel used to fill rail contracts
Col-Tex Refining Co.	Colorado, Tex.	8,000	Skimming	Mitchell County, California Co.	Gasoline, kerosene, etc., contracts and general market
Humble Oil & Ref. Co.	McCamey, Tex.	*10,000	Skimming	Pecos County, Humble Co.	Tops shipped south in Humble line; fuel to rail con.s
Odessa Refining Co.	Odessa, Tex.	300	Topping	Hendricks.	
Pecos Valley Ref. Co.	Pyote, Tex.	2,500	Topping	Hendricks, Texon O. & L. Co.	Tops and fuel sold on contracts, part to Chi. markets
Rio Grande Oil Co.	El Paso, Tex.	2,500	Skimming	Hendricks, crude from American Pet., tops from Bluebonnet	Gasoline, kerosene, etc., contracts and open market
San Angelo Ref. Co.	San Angelo, Tex.	2,000	Skimming	Crane County	Gasoline, kerosene, etc., own outlet and open market
Sweetwater Ref. Co.	Sweetwater, Tex.	300	Topping	Pecos County, Marland	

Total capacity, 32,600 bbls. *Humble adding 7,000 bbls. capacity, plant now running close to 13,000 bbls.

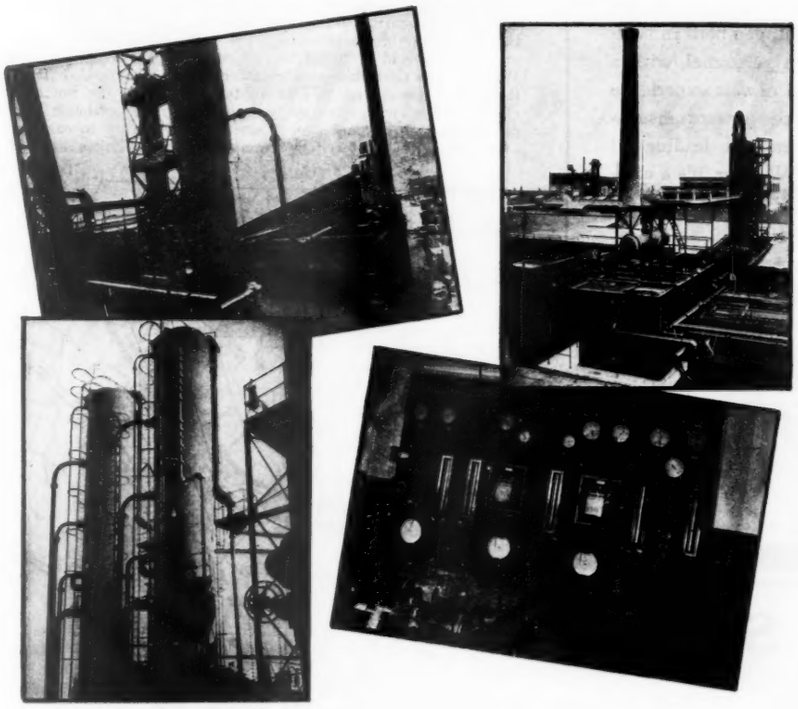
PROPOSED TEXAS PLANTS

Company Name—	Organizer	Address	Plant Location	Type	Capacity	Probable Crude Supply
Altitude Petroleum Co.	Altitude Petroleum Co.	Tulsa, Okla.	Rankin	Skimming	1,500	Yates
	Reese S. Allen	Wichita Falls	Sweetwater	Skimming	5,000	Chalk Field
Big Lake Ref. Co.	Roy and E. B. McKee	San Angelo	Big Lake	Skimming	1,000	Big Lake
	Bluebonnet Co. and Rio Grande Co.	Dallas or El Paso	Midland	Skimming	3,000	Hendricks
Crystal Oil Ref. Corp.	Crystal Oil Ref. Corp.	Shreveport	Pecos or Monahans	Cracking Complete	5,000	Hendricks
Humble O. & R. Co.	Humble O. & R. Co.	Houston	Ingleside	Skimming	10,000	West Texas
Magna Refining Co.	J. and L. Olson	El Dorado, Ark.	Wickett	Skimming	2,000	Hendricks
Stilwell Benzol Ref. Co.	A. E. Stilwell	Kansas City, Mo.	Port Arthur	Vpr. Phase	2,000	
	J. D. Wrather et al	Amarillo	Pyote	Skimming	1,500	Hendricks

TEXAS PLANTS UNDER CONSTRUCTION

Company name—	Address	Plant Loc.	Capacity	Equip.	Type	Crude Supply
Everybody O. & G. Co.	Dallas, Tex.	West Dallas	1,000	Comb.	Skimming	Part from Bluebonnet at Wickett, tops only
Golden West Oil Co.	San Antonio	40 miles west San Antonio	300	Comb.	Lub.	Own production in Ina Field, Medina County
Pampa Refining Co.	Pampa	Pampa	2,000	Comb.	Skimming	Gray County crude from Toronto Pipe Line Co.
Pasotex Rfg. Co.	El Paso	El Paso	10,000	New	Skimming	Hendricks, Pasotex P. L. Co.
Tonkawa Refining Co.	Tonkawa, Ok.	Pyote	1,500	Comb.	Skimming	Hendricks, Texon O. & L. Co.
Motor Fuel Products Co.	Laredo	Laredo	1,750	New	Cracking	Laredo crude
Wickett Refining Co.	Dallas	Wickett	2,500	Comb.	Skimming	Hendricks and tops from Bluebonnet

ESSENTIAL POINTS OF EFFICIENT PIPE STILL UNITS



The main elements of Pipe Still Units whether for topping, vacuum or atmospheric distillation of lubricating oils, etc., are the Pipe Heaters, Fractionating Towers, Heat Exchangers and Condensers.

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Phillips Petroleum Co.
Pierce Petroleum Corp.
Tide Water Oil Co.
Anglo-Persian Oil Co., Ltd.
Empire Refineries, Inc.
Marland Oil Co.
Vacuum Oil Co.
Associated Oil Co.
Barnsdall Corp.
Humble Oil & Refining Co.
Tidal Refining Co.
Standard Oil Co. of N. J.
General Petroleum Corp.
Beacon Oil Company
Lubrite Refining Co.
Pennzoil Company
Shell Company of California
New Orleans Refining Co.

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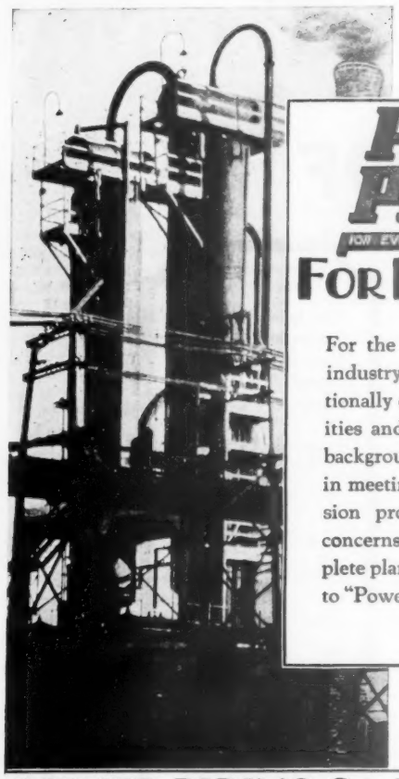

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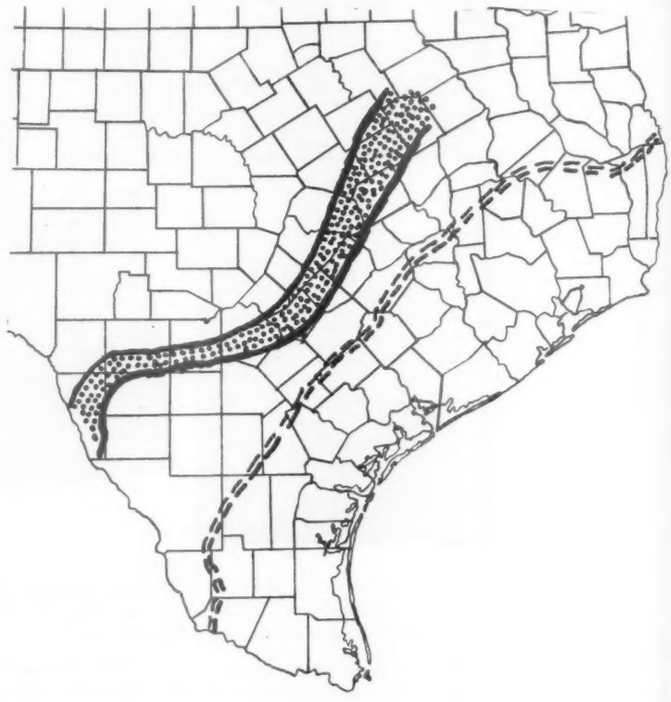
SERPENTINE HAS 30 FEET OF OIL IN DALE FIELD, TEXAS, WELL

By B. D. Stevenson

SAN ANTONIO, Tex., Apr. 28.—Like the poor in scripture and overproduction in West Texas, it seems like the Serpentine will ever be with Southwest Texas. The first oil field in the world to be found in Serpentine, which is of volcanic origin, was in Thrall in Williamson County and the next in Texas was at Lytton Springs and the next at Dale, both in Caldwell County. The only other such field in the world is in Cuba. Trinity Drillers and others' No. 1 Miears, about 11,000 feet southwest of the discovery well of the Dale Field, has found 30 feet of Serpentine at 1,969-99 feet with some oil in it. Dry holes between it and the Dale Field would indicate that it is a separate Serpentine plug. That was the theory of the geologist when the well was started, and it seems to be proven. While at the time this was being written it was not yet a well, it accentuates the chance of the wildcatter going into Serpentine most any place over a stretch of over 350 miles of territory from about Waco southwest to San Antonio and west to and including Uvalde County, and southwest to include Maverick County. The width of the belt covered by this territory averages about 25 miles, and it covers what is generally termed the Balcones Fault zone.



Balcones fault zone and Reynosa escarpment.

Two bulletins have been issued by the University of Texas covering this territory with respect to the Serpentine, a formation that produces and will probably not be encountered anywhere else in the State of Texas. One of the bulletins is a recent publication and is entitled "Igneous Rocks of the Balcones Fault Region in Texas," by John T. Lonsdale. The other was issued soon after the Lytton Springs Field was discovered and is entitled the "Lytton Springs Oil Field," by H. P. Bybee and R. T. Short, both then with the State University and now with the Dixie Oil Co.

Lytton Springs Field

Lytton Springs, in Caldwell County, northeast of the city of Lockhart, and sometimes called the Lockhart Field, is probably the biggest and has probably been the most profitable field thus far found in the Serpentine formation. There were a total of 329 producers drilled in Lytton Springs and of these 304 are now producing. The field was discovered in March, 1925, and down to December 31 of that year produced 2,715,566 bbls. During 1926 it produced 1,828,150 bbls. and in 1927 it produced 755,287 bbls., a total for a period of two years and 10 months of 5,299,003 bbls. About 1,700 feet was around the deepest and about 1,250 feet the shallowest total depths of wells in the fields.

The first Lytton Springs wells came in for rather large flush production and it was some little time before a dry hole was drilled. The Dale Field started off with less propitious opening, but with a total of 26 producing wells drilled to date at depths of around 2,150 feet it produced during March, 1928, an average of 1,039 bbls. per day. The field was discovered last August by The Texas Company with its No. A-1 R. Beaty, located 150 feet from the northeast and 1,550 feet from the southeast line of the Nicholas Kelly Survey in eastern Caldwell County about 2½ miles east of Dale. The first two months of production was entirely from the discovery well. The field's production record to March 31, 1928, was as follows:

1927—	No. Wells	Daily Average	Total Prod.
August	1	70	2,170
September	1	80	2,400
October	11	385	11,935
November	16	445	13,350
December	19	510	15,810
1928—			
January	20	445	13,795
February	22	845	24,565
March	26	1,039	31,209
			115,174

Crude in the Lytton Springs Field is about 39 gravity and that in the new Dale Field about 36 gravity.

The Thrall Field in Williamson County covered 470 acres and it was discovered in 1915 and the total production down to January 1, 1928, was approximately 1,500,000 bbls. The production for February, 1928, was 1,139 bbls. for the entire months.

Technical Features

Technical features of the Serpentine can be obtained by reading the two reports mentioned. When the Lytton Springs Field was discovered in February, 1925, it was supposed at first to be in Taylor marl, but was described as being in a sand instead of marl. When the

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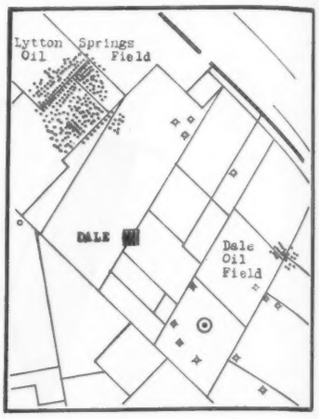
laboratories of the big companies got samples of the formation it soon was disclosed that it was Serpentine. The formation is found in the three fields in Texas below the Taylor marl and above the Austin chalk. It is supposed, according to authorities, being of volcanic origin, to have come up from some vent and spread over the Austin chalk before the Taylor marl was laid down and at a time when the chalk was the bottom of a sea. The cooling process alters it to such an extent that it becomes porous and permits of migration of oil to it from some other formation.

Technical descriptions will not be attempted here. The general color of green attaches to it and soon after the finding of the Lytton Springs every driller who got any cuttings that looked green was sure it was Serpentine. It is classed as rock, but in streaks in the Lytton Springs Field drillers logged it as gumbo. In the bulletin on the Lytton Springs Field the authors call attention to this and obtained samples that they say were incorrectly classed as gumbo. Soft layers of the Serpentine when wet will stick to the rotary drill bit and drill stem, causing it to spin much as when drilling in gumbo. Other than these soft layers, however, the formation seems fairly easy to identify due to its position and the greenish color.

Ordinarily in the Lytton Springs Field the Serpentine was found quite porous and mud pumps would race due to losing some of the returns in the formation. It was very soft easy drilling and the drill would sink fast. In spots the Serpentine was found hard and nearly nonporous. Due to this condition there were a few dry holes drilled in the Lytton Springs Field surrounded by produeers. In drilling with the rotary the cuttings come out about the size of the end of one's little finger.

In the two maps accompanying this article one shows the Lytton Springs and Dale Fields with relation to the town of Dale, and the new Trinity Drillers well



Lytton Springs and Dale Fields.

is enclosed in circle southeast of the town of Dale and southwest from the Dale Field. The other map, in the dotted strip between the two black lines, shows the Balcones Fault zone in which Serpentine can be found, not generally but spotted over the territory The double broken line represents the approximate location of the Reynosa escarpment.

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

Texas Panhandle

Gray County

Danciger and others' No. 1 L. H. Webb, 330 feet south and east of NW cor. of NW of Section 62, Block 25, H.&G N. Survey. Magnolia Petroleum Co.'s No. 2 J. B. Bowers, 990 feet north and 330 feet east of SW cor. of NW of Section 63, Block B-2, H.&G N. Survey. Operators Oil Co.'s No. 3 W. Jackson, 330 feet south and 990 feet east of NW cor. of N half of NE of Section 88, Block B-2, H.&G.N. Survey. Partan and others' No. 1 J. S. Morse, 330 feet south and east of NW cor. of N half of NE of Section 5, Block 26, H.&G.N. Survey.

Hutchinson County

Oil Operators Trust Co. and Marland Oil Co.'s No. 2 J. M. Sanford-B, 178 feet north and 317 feet east of SW cor. of the north 46 acres of the south 366 acres of Section 82, Block 46, H.&T.C. Survey. Phillips Petroleum Co.'s No. 5 Johnson Brothers-Dorsett, 858 feet north and 858 feet west of SE cor. of the north 160 acres of Section 64, Block 46, H.&T.C. Survey. Same company's No. 6 Johnson Brothers-Dorsett, 712 feet north and 1,383 feet west of SE cor. of the north 106 acres of Section 64, Block 46, H.&T.C. Survey. Same company's No. 14 J. A. Whittenburg, Section 63, 330 feet south and 996 feet east of NW cor. of the south 400 acres of Section 63, Block 46, H.&T.C. Survey. Winrod Oil Co.'s No. 1 E. Cooper, 874 feet north and 397 feet east of the SW cor. of the west 80 acres of SW of Section 3, Block 9, I.&G.N. Survey.

North Central and West Texas

Archer County

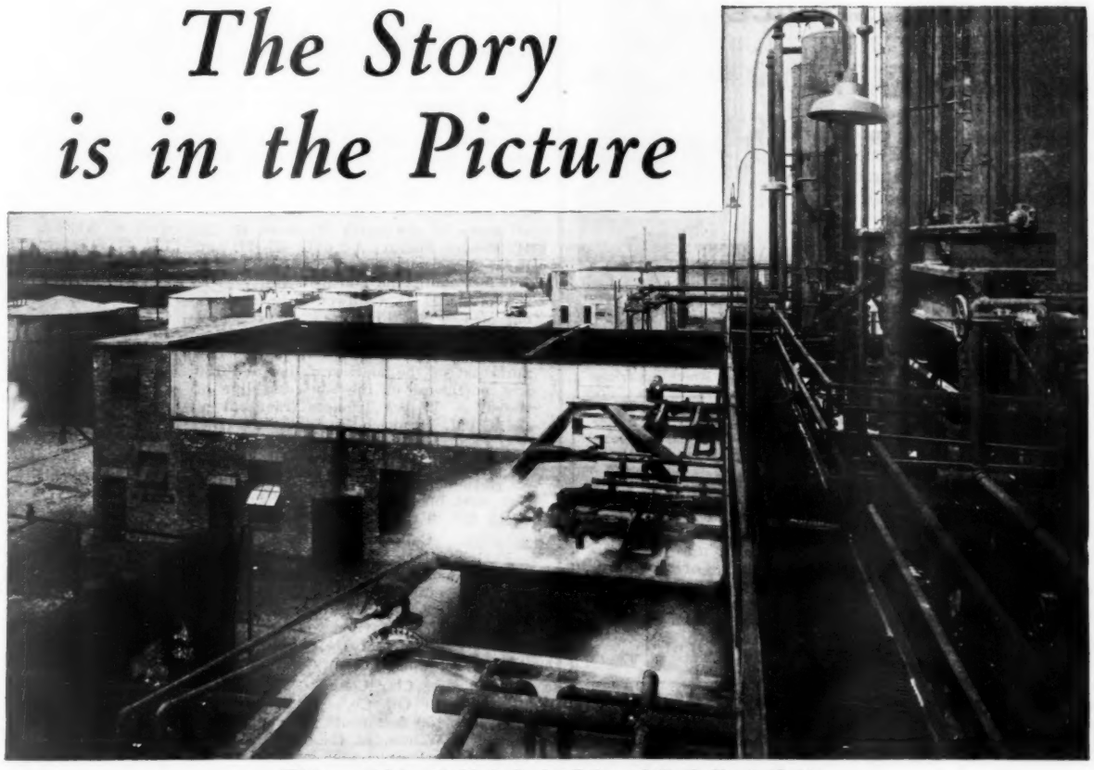
Bridwell Oil Co. and others' No. 3 L. F. Wilson, 450 feet north and 150 feet west of SE cor. of Lot No. 12, Wilson's Geraldine Subdivision. D. O. Johnson and others' No. 6 L. F. Wilson-B, 150 feet north and 450 feet west of SE cor. of Lot No. 19, Wilson's Geraldine Subdivis'on. Burns & Kelleher's No. 1 Nona Lowery, 150 feet south and west of NE cor. of Section 55, Club Ranch Subdivision. Consolidated Oil Co.'s No. 2 J. F. Lisle, 150 feet south and west of NE cor. of NW of Section 3, G. P. Meade Subdivision, L. M. Pasture. Humble Oil & Refining Co.'s No. 1 G. B. Hamilton-A, 750 feet south and 150 feet west of the most easterly NE cor. of their 100-acre "A" lease out of the B.B B.&C. Survey No. 6, A-1,266. Panhandle Refining Co.'s No. 1 W. R. Farmer, 150 feet south and 756 feet east of NW cor. of Section 8, North Anderson Ranch Subdivision. Panhandle Refining Co. & Johnston's No. 3 J. R. Garvey, 450 feet south and east of NW cor. of the north 60 acres of SE of Section 1,856, T.E.&L. Survey. Pelwin Oil Co.'s No. 1 R. N. Chancellor, 1,435 feet north and 150 feet east of SW cor. of the W. A. Rucker Survey, A-1,110.

Brown County

Baker and others' No. 2 J. L. Cross, 3,400 feet north and 800 feet east of SW cor. of the James Kinney Survey No. 624, being 300 feet southwest of their No. 1. Daniels and others' No. 1 R. W. Miers, 190 feet south and 150 feet east of the most northerly NW cor. of the R. W. Miers 320-acre tract out of the S.A.&M.G. Survey No. 3. Foulcher and others' No. 1 Ed Selvidge, 150 feet south and west of NE cor. of SE of Section 32, H.T.&B. Survey, A-1,538. Henshaw Oil Corp.'s No. 9 P. U. Bush, 4,050 feet north and 850 feet east of SW cor. of the James Kinney Survey No. 624, being 150 feet northwest of the southeast line and 468 feet east of the west line of their 77-acre lease. Same corporation's No. 10 P. U. Bush, 150 feet south and 200 feet east of NW cor. of their 77-acre lease out of the James Kinney Survey No. 624. Same corporation's No. 11 P. U. Bush, 1,050 feet south and 450 feet west of NE cor. of their 77-acre lease out of the James Kinney Survey No. 624.

Humble Oil & Refining Co.'s No. 5 J. C. Kilgore-A, 200 feet north and 558 feet west of SE cor. of Lot No. 3, Juan Delgado Survey No. 785. Jay Hawk Oil Co.'s No. 6 B. S. Boysen, 450 feet north and west of SE cor. of the north 40 acres of the H. Pressler Survey, A-

The Story is in the Picture



This is a recent photograph of the Sterling installations at the Bartles-Maguire plant in East Chicago Ill. Operating the Jenkins Process installed by the Graver Corp., Chicago.

IN THE above photograph notice the size of the abandoned condenser box in the background. This box which was equipped with old-style condensing surface, handled daily the condensates of an average run of only 1000 bbls. of cracking stock. The three small boxes—in the foreground—equipped with easily accessible STERLING Sections represent half the volume of the old box—yet they handle daily the condensates from 2000 bbls. of cracking stock.

This is only one of the many STERLING installations that are helping to increase the efficiency and lower the production costs in the Oil Refining industry.

"Seven exclusive features of STERLING Oil Sections."

Compactness—Rapid Installation—Accessibility—Complete Condensing—Lower Final Temperatures—Fewer Repairs—Longer Life.

Longer Life—because STERLING Sections are made of the new ARCO corrosion resisting metal.

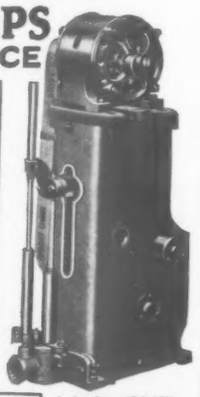
AMERICAN RADIATOR COMPANY

Industrial Division No. A

40 West 40th Street NEW YORK | 816 South Michigan Avenue CHICAGO | Factory: Springfield, Ill. | 935 Kennedy Bldg. TULSA | 1214 Quinby Bldg. LOS ANGELES

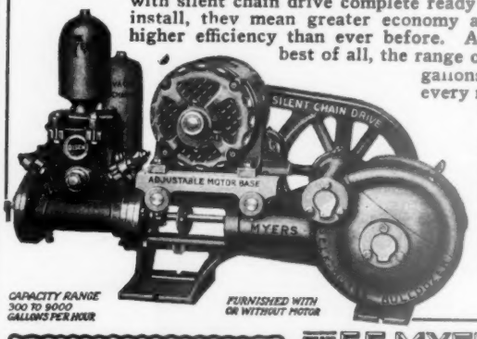
AND NOW! MOTOR EQUIPPED
Self-Oiling
A REGISTERED TRADE NAME
MYERS POWER PUMPS
FOR GENERAL SERVICE

New standards of water service—perhaps you are not familiar with them. Pronounced economies in operation and maintenance costs—remarkable records of continuous operation without care or attention—largely increased volume over antiquated types—durability over longer period of years—yes, these and other important features are popularizing Myers Self-Oiling Power Pumps and creating a world wide market for them.



6-9-12 and 18 INCH STROKE WITH OR WITHOUT MOTOR

The accompanying illustrations show two new styles, the one for deep well service, the other for shallow wells or cisterns. Motor equipped with silent chain drive complete ready to install, they mean greater economy and higher efficiency than ever before. And best of all, the range of sizes up to 10,000 gallons per hour covers every need in this field.



CAPACITY RANGE 300 TO 9000 GALLONS PER HOUR

FURNISHED WITH OR WITHOUT MOTOR

If you contemplate purchasing power water equipment for station, field, mill, mine or factory, or for any other purpose, write us for catalog and particulars.

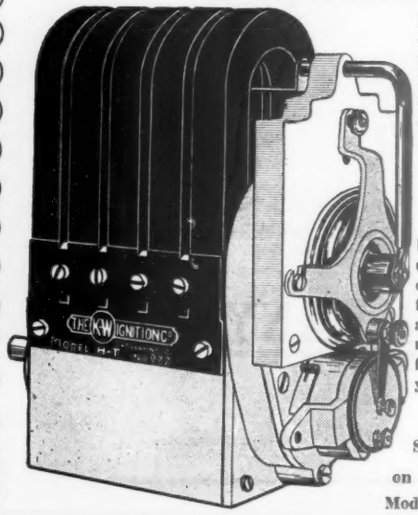
Take Off Your Hat To The MYERS
PUMPS WATER SYSTEMS · HAY TOOLS · DOOR HANGERS

THE F. E. MYERS & BRO. CO.
ASHLAND, OHIO.

Manufacturers for over Fifty Years of MYERS "HONOR-GILT" PUMPS for Every Purpose, WATER SYSTEMS · HAY and GRAIN UNLOADING TOOLS · BARN, FACTORY and GARAGE DOOR HANGERS · STORE LADDERS, Etc.

THE VALUE OF ANY TRADE MARK
DEPENDS UPON THE CONFIDENCE IT
HAS INSPIRED

The K-W High Tension MAGNETO



has borne a trade-mark which over a period of twenty years has represented to the user a guarantee of

SAFE AND DEPENDABLE IGNITION

Built for heavy duty work — For continuous twenty-four hour service, and has predominated in the oil fields all these years.

SPECIFY K-W on your next engine.

Models for every type.

MANUFACTURED BY
THE K-W IGNITION CORP.
CLEVELAND, OHIO U.S.A.

OKLAHOMA-TEXAS REPRESENTATIVES
MAGNETO IGNITION CORP.
308 E. SECOND STREET
TULSA, OKLAHOMA

2,041. Midland Oil Co.'s No. 3 G. T. Butler, 750 feet north and 150 feet west of the most southerly southeast cor. of the G. T. Butler 215.68-acre tract out of the T. Benson Survey No. 783. Pandem Oil Corp.'s No. 9 A. D. Hutton, 466 feet south and 150 feet east of NW cor. of the J. A. Nobles Survey, A-1,947. Same comporation's No. 10 A. D. Hutton, 150 feet south and east of NW cor. of the J. A. Nobles Survey, A-1,947. Peckham and others' No. 4 P. U. Bush, 150 feet north and 750 feet west of SE cor. of their 20-acre lease out of the James Kinney Survey No. 624. Phillips Petroleum Co.'s No. 12 Roy Hickman, 150 feet south and 766 feet east of NW cor. of their lease out of the Thomas Benson Survey No. 783. Shuler & Davies' No. 2 B. S. Boysen, 150 feet south and 450 feet west of NE cor. of the south 40 acres of the north 80 acres of the H. Presler Survey, A-2,041. E. H. and F. M. Caldwell's No. 2 E. H. Caldwell, 750 feet south and 400 feet west of NE cor. of the E. H. Caldwell 164-acre tract out of Lot No. 15, Kerr County School Land Nos. 277 and 279. J. W. King and others' No. 1 J. A. Forbes, 450 feet northeast of the southwest line and 150 feet northwest of the southeast line of the J. A. Forbes 329-acre tract out of the G. M. Deadrich Survey No. 147.

Brewster County

Cowden & Bowser's No. 1-A Jackson & Harmon, 990 feet south and 1,620 feet west of the NE cor. of Section 1, Block 331, T.C.R.R. Survey.

Callahan County

Farlyn Oil Co.'s No. 1 C. B. Snyder, 150 feet north and west of SE cor. of SW of Section 140, B.B.B.&C. Survey. Prairie Oil & Gas Co.'s No. 9 R. Cunningham, 150 feet north and 300 feet east of SW cor. of their lease out of Section 73, Comal County School Land.

Clay County

Manhattan Oil Co.'s No. 1 W. M. Hickman, 150 feet south and 2,910 feet east of NW cor. of the W. M. Hickman 426-acre tract out of the Josefa Diaz Survey, A-110.

Coleman County

Fletcher & Green's No. 1 M. C. Dibrell, 175 feet north and 2,697 feet west of SE cor. of Section 11, H.T.&B. Survey. Magnolia Petroleum Co.'s No. 20 J. P. Morris, 1,810 feet north and 5,110 feet east of SW cor. of the David Breeding Survey No. 728. Mid-Sun Oil Corp.'s No. 2 W. F. Guthrie, 1,170 feet south and 1,980 feet east of NW cor. of the A. S. Lipscomb Survey No. 77.

Crockett County

Grayburg Oil Co.'s No. 8 H. M. Halff, 660 feet south and 3,675 feet east of NW cor. of Section 70, Block 1, I.&G.N. Survey, being 1,980 feet east of their No. 2.

Eastland County

Amerada Petroleum Corp.'s No. 1 E. W. Roberts, 2,133 feet north and 2,041 feet east of SW cor. of the E. W. Roberts 580-acre tract out of the R. R. Puckett Survey. Barkley and others' No. 4 A. L. Duffer, 1,400 feet south and 1,350 feet east of NW cor. of Lot No. 13 and located in Lot No. 5, McLennan County School Land, League 2. J. H. Fulcher and others' No. 1 H. B. Woods, 780 feet south and 660 feet west of NE cor. of Section 55, McLennan County School Land, Leagues 3 and 4. H. B. Mays and others' No. 1 H. B. Woods, 150 feet north and 450 feet west of SE cor. of Section 56, McLennan County School Land, Leagues 3 and 4. Cranfill & Reynolds' No. 1 C. McIntosh, 150 feet south and 450 feet west of NE cor. of the C. McIntosh 110-acre tract out of Section 30, Block 2, H.&T.C. Survey.

Garza County

Latimer & Wagoner's No. 1 W. L. Cross, 330 feet north and east of SW cor. of Section 13, Block 4, K. Aycock Survey.

Jones County

Teas & Wheeler's No. 1 Henry Sayles, 465 feet south and 808 feet west of NE cor. of Section 3, Block 20, T.P.R.R. Survey.

Ir'on County

Kimbrough & Tuel's No. 1 J. M. Nutt, 1,920 feet south and 7,863 feet east of NW cor. of the Gonzales County School Land, being 1,920 feet south and 200 feet east of NW cor. of Section 5. L. P. Powell and others' No. 1 Harlan Horney, 2,130 feet north and 1,170 feet east of SW cor. of Section 2, Block 3, H.&T.C. Survey.

Montague County

W. R. Bourland and others' No. 1 H. C. McGaughy, 3,145 feet north and 150 feet east of SW cor. of the C. Chacon Survey, A-143, being 150 feet north and east of SW cor. of their 50-acre lease.

Palo Pinto County

Texas Pacific Coal & Oil Co.'s No. 157 J. N. Stuart, 400 feet north and east of SW cor. of Section 73, Block 4, T.P.R.R. Survey.

Pecos County

McMan Oil & Gas Co.'s No. 2 M. A. Smith-B, 1,407 feet south and 872 feet west of NE cor. of Section 104, Block 194, G. C. & S. F. Survey. Mid-Kansas Oil & Gas Co.'s No. 15 Smith-Taylor, 2,249 feet south and 1,320 feet east of NW cor. of Section 33, Block 194, G. C.&S.F. Survey. Same company's No. 19 I. G. Yates-A, 250 feet north and east of the most easterly NE cor. of Section 31, Block 194, G.C.&S.F. Survey and located in the I. G. Yates Survey, A-8,195. Roxana Petroleum Corp.'s No. 1 M. A. Smith-B, 990 feet south and 1,025 feet west of NE cor. of Section 24, Block 194, G C.&S.F. Survey.

Schleicher County

J. F. and O. C. Long's No. 1 W. H. Williams, 330 feet south and west of NE cor. of Section 28, H.E.&W.T. Survey.

Shackelford County

Petroleum Producers Co.'s No. 2 J. B. Matthews, 450 feet south and 150 feet east of NW cor. of Section 28, Block 10, E.T.R.R. Survey. Same company's No. 3 J. B. Matthews, 150 feet south and 450 feet east of NW cor. of Section 28, Block 10, E.T.R.R. Survey. Sentinel Oil Co.'s No. 1 J. H. Elliott, 150 feet north and west of SE cor. of W half of Section 63, Lunatic Asylum Land. Skelly Oil Co.'s No. 1 J. B. Matthews-N, Section 33, 150 feet south and west of NE cor. of W half of SE of Section 33, Block 10, E.T.R.R. Survey. Tannehill Oil Co.'s No. 2 J. B. Matthews, Section 27, 150 feet north and 450 feet east of SW cor. of Section 27, Block 10, E. T.R.R. Survey. Same company's No. 2 J. B. Matthews, Section 33, 450 feet south and 150 feet west of NE cor. of Section 33, Block 10, E.T.R.R. Survey. E. M. Treat Oil & Gas Co.'s No. 2 J. B. Matthews, 150 feet south and 450 feet east of NW cor. of E half of SE of Section 33, Block 10, E.T.R.R. Survey. Same company's No. 3 J. B. Matthews, 450 feet south and 150 feet east of NW cor. of E half of SE of Section 33, Block 10, E.T.R.R. Survey.

Tom Green County

McLaughlin & Ridge's No. 1 R. Q. Holder, 3,140 feet north and 80 feet west of the SE cor. of the J. P. Parker Survey.

Ward County

Denver Producing & Refining Co.'s No. 1 Cherokee Land & Irrigation Co., 990 feet southwest of the northeast line and 2,310 feet northwest of the southeast line of Section 215, Block 34, H.& T.C. Survey. Rector Oil Co.'s No. 1 State Land, 990 feet southwest of the northeast line and 990 feet southeast of the northwest line of Section 30, Block 4, H.&T.C. Survey.

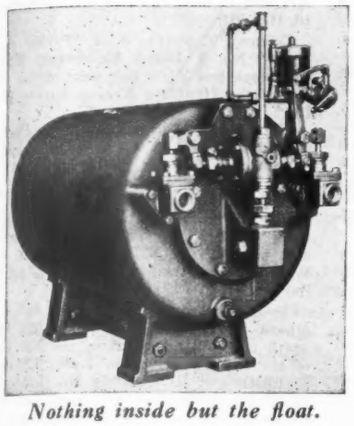
Wichita County

J. S. Bridwell and others' No. 1 N. C. Griffin, 4,730 feet south and 3,563 feet east of NW cor. of the heirs of Floyd Jordan Survey, A-167. C. H. Clark and others' No. 8 W. T. Waggoner, 1,290 feet south and 1,100 feet west of NE cor. of Section 33, Block 5, H.&T.C. Survey.

Winkler County

Atlantic Oil Producing Co.'s No. 1 Grisham-Hunter-G, 440 feet north and east of SW cor. of NW of Section 46, Block 26, School Land. Same company's No. 8 Ida Hendrick-D, 2,310 feet south and 330 feet east of NW cor. of Section 29, Block B-5, School Land. Humble Oil & Refining Co.'s No. 1 T. G. Hendrick-B, 2,200 feet north and 990 feet east of SW cor. of Section 39, Block 26,

If you have trouble with your pumping traps here's the way to end it



Nothing inside but the float.

If your traps become air bound and gaskets blow, **get a trap so designed it cannot air bind.**

If your traps get out of adjustment, **get a trap that comes to you permanently adjusted for all conditions.**

If your traps use too much steam, **get a trap in which the steam is vented back to the unit being drained.**

If you have trouble due to trunnions wearing, **get a trap that has no trunnions.**

If your traps pound and jar when they operate, **get a trap with a stationary receiver.**

If you have trouble with dash pots, bumpers or springs, **get a trap that has none of these sources of trouble.**

If your traps are slow in operation, **get a trap with piston controlled valves, giving quick action and insuring large capacity.**

If you have trouble because of "wire-drawing," **get a trap with instant full-opening valves.**

In brief—get a SHORTT Automatic PUMPING TRAP

Two cents will start you on the road to new Trap Satisfaction. Write today for descriptive folder.

Other Products of THE W. B. CONNOR CO., Inc.
ACE Steam Traps (non-return type)
ACE Air Filters
Du Bus Pumps for all viscous liquids—positive-acting, self-priming.

Operates on Steam or Air

The W. B. Connor Co. Inc.
365B Lexington Ave., New York, N. Y.

ROOTS

Accurate Measurement of Natural Gas

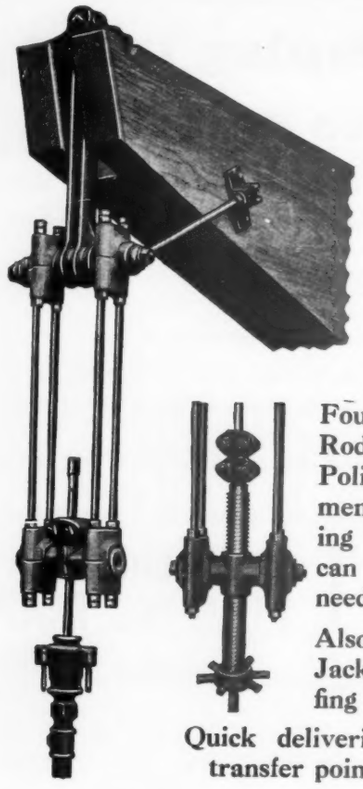
ROOTS HIGH PRESSURE TYPE ROTARY DISPLACEMENT METER

Under High Pressure Conditions.
Are You Interested?
See our display at the National Gas Convention Dallas, Texas—May 7-10

BOOTH 606

The P. H. & F. M. ROOTS CO.
CHICAGO Peoples Gas Building
CONNERSVILLE, INDIANA
NEW YORK 120 Liberty Street

Originators of the Double Impeller Rotary Principle



Emery—Lightning Beam Hanger All Steel

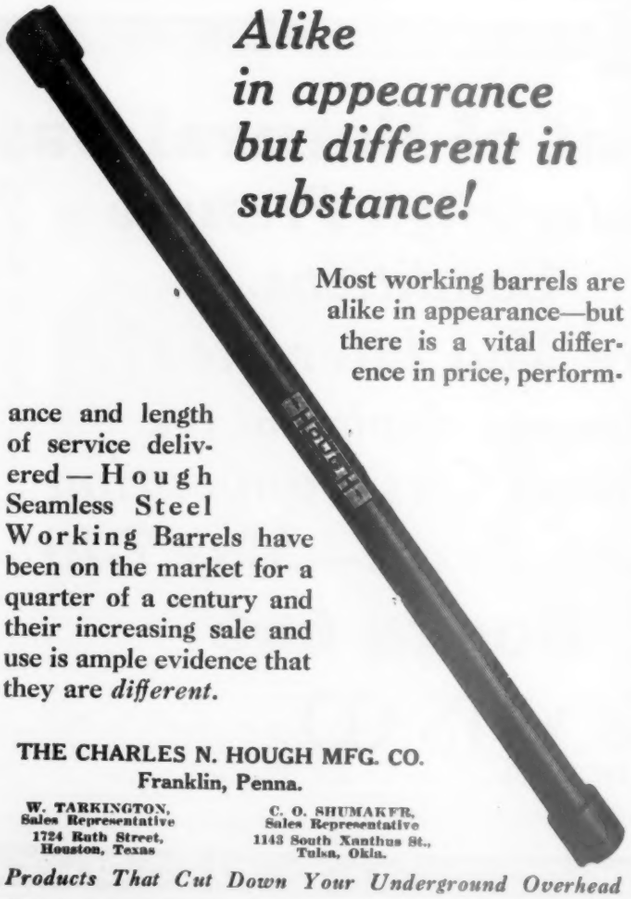
Unsurpassed for strength and long wear. Heavy enough for the deeper wells.

Four one-inch Suspension Rods. Plain steel yoke for Polish Rod regular equipment, but our Ball Bearing Temper Screw Yoke can be furnished where needed.

Also Lightning Powers—Jacks — Swings — Stuffing Boxes, etc.

Quick deliveries from convenient transfer points or from factory.

Kansas City Hay Press Co.
Kansas City, Mo.



Alike in appearance but different in substance!

Most working barrels are alike in appearance—but there is a vital difference in price, performance and length of service delivered — Hough Seamless Steel Working Barrels have been on the market for a quarter of a century and their increasing sale and use is ample evidence that they are *different.*

THE CHARLES N. HOUGH MFG. CO.
Franklin, Penna.

W. TARKINGTON, Sales Representative, 1724 Ruth Street, Houston, Texas

C. O. SHUMAKER, Sales Representative, 1143 South Xanthus St., Tulsa, Okla.

Products That Cut Down Your Underground Overhead

School Land. Independent Oil & Gas Co.'s No. 7 Grisham-Hunter-B, 330 feet south and 2,310 feet east of NW cor. of Section 41, Block B-5, School Land. Landreth Production Corp. and Roxana Petroleum Corp.'s No. 7 Ida Hendrick-A, 330 feet south and east of the NW cor. of SW of Section 29, Block B-5, School Land. Republic Production Co.'s No. 3 Grisham-Hunter-A, 330 feet north and 1,650 feet east of SW cor. of Section 45, Block 26, School Land. Same company's No. 4 Grisham-Hunter-A, 330 feet north and 2,310 feet east of SW cor. of Section 45, Block 26, School Land. Roxana Petroleum Corp.'s No. 1 Grisham-Hunter-F, 440 feet south and east of NW cor. of SW of Section 46, Block 26, School Land. Same corporation's No. 2 Grisham-Hunter-F, 440 feet north and east of the SW cor. of Section 46, Block 26, School Land.

Young County

Allday Oil Corp.'s No. 4 C. W. Johnson-B, 750 feet south and 150 feet east of NW cor. of Lot No. 15, Ed. W. Sergeant Survey, A-253. J. D. Byrom's No. 1 J. W. Edwards, 450 feet south and east of NW cor. of S half of Section 1,499, T.E.&L. Survey. W. H. Clarida's No. 1 W. H. Clarida, 1,610 feet north and 910 feet west of SE cor. of the W. A. Nicholson Survey, A-1,697. Cooper & Barrett's No. 1 J. A. Hutchings, 300 feet north and 150 feet east of SW cor. of Section 230, T.E.&L. Survey. Gatewood & Willis' No. 1 W. D. Rogers, 150 feet south and west of NE cor. of the south 40 acres of the north 100 acres of the east 160 acres of Section 288, T.E.&L. Survey.

P. F. Gwynn's No. 1 H. D. Kunkel, 150 feet south and west of NE cor. of the south 50 acres of the east 100 acres of SW of Section 4, B.B.B.&C. Survey, A-1,838. Jetter & Dixon's No. 1 J. R. Garvey, 150 feet south and 1,129 feet west of NE cor. of Section 1,857, T.E.&L. Survey. C. Kleiner and others' No. 1 C. F. Rowley, 1,050 feet south and 150 feet east of NW cor. of E half of Section 1,915, T.E.&L. Survey. Kerbow & Albright's No. 1 J. F. Vaden, 150 feet north and east of SE cor. of NE of Section 2, B.S.&F. Survey, A-1,480, and located in the S. Sallie Survey, A-252.

Panhandle Refining Co.'s No. 1 B. Hawkins, 150 feet south and 1,552 feet east of NW cor. of Section 1,914, T.E.&L. Survey. Pennell Oil Co.'s No. 5 J. L. Boone, 150 feet south and west of NE cor. of NW of NW of Section 1, B.B.B.&C. Survey, A-34. E. R. Riggs and others' No. 5 J. B. McKinley, 150 feet south and west of NE cor. of the west 200 acres of Section 1,489, T.E.&L. Survey.

Shannell Oil Co.'s No. 8 C. W. Johnson, 450 feet north and 150 feet west of SE cor. of their 40-acre lease out of the Ed W. Sergeant Survey, A-253. Same company's No. 9 C. W. Johnson, 750 feet north and 150 feet east of SW cor. of the Ed W. Sergeant Survey, A-253. Shaw-Riggs and others' No. 4 J. B. McKinley, 150 feet south and 450 feet east of the NW cor. of the north 40 acres of the east 65 acres of Section 1,489, T.E.&L. P. Steed and others' No. 1 M. Donald, 150 feet south and east of the NW cor. of the east 60 acres of the south 140 acres of Section 291, T.E.&L. Weekley Oil Corp.'s No. 1 M. C. Robinson, 150 feet north and west of the SE cor. of Section 1,466, T.E.&L. Paull Oil Co.'s No. 1 E. A. Blount, 200 feet NW of the SE line and 200 feet SW of the NE cor. of the E. A. Blount 141-acre tract out of Section 2,692, T.E.&L. A-1,131. E. C. Stovall's No. 9-A E. C. Stovall, 7,500 feet south and 1,000 feet east of the NW cor. of the James Tobin Survey, A-279, being 150 feet northwest of his No. 9.

Corrected Locations

Brown County: Humble Oil & Refining Co.'s No. 10 J. C. Kilgore-B, 1,358 feet south and 658 feet east of the NW cor. of Section 3, J. Delgado Survey No. 785. Mitcham and others' No. 1 C. A. Thomason, 750 feet north and 450 feet east of the most westerly SW cor. of the J. J. Clelland Survey No. 64. Sinclair Oil & Gas Co. and Smilock Petroleum Co.'s No. 1 Ralph Hines, 2,647 feet north and 1,650 feet east of the SW cor. of the Hrs. John Eldridge Survey No. 647. E. H. and F. M. Caldwell's No. 1 E. H. Caldwell, 1,090 feet north and 975 feet west of the SE cor. of Lot No. 15, Kerr County School Land Nos. 277 and 278, Wilson and others' No. 1 L. A. Spain, 450 feet south and 210 feet east of the NW cor. of the SE of the NE of Section 10, H.T.&B.

Coleman County: S. J. Taylor and others' No. 1 Upton Henderson, 2,200 feet north and 3,200 feet west of the SE cor. of the Hamilton Kegans Survey No. 498.

Hutchinson County: Phillips Petroleum Co.'s No. 13 J. A. Whittenburg, Section 63, 330 feet south and east of the NW cor. of the south 400 acres of Section 63, Block 46, H.&T.C. Survey.

Runnels County: Globe Petroleum Co.'s No. 1 J. H. Webb, 500 feet south and west of the NE cor. of the J. H. Webb 115-acre tract out of the G.C.&S.F. Survey No. 2.

Young County: C. Kleiner and others' No. 6 C. W. Langston, 1,050 feet south and 150 feet west of the NE cor. of the S half of Section 1,490, T.E.&L. J. Leath and R. Dillard's No. 1 M. A. Hoffman, 1,886 feet southwest of the northeast line and 150 feet southeast of the northwest line of the P. Everett Survey, A-2. Wise & Jackson's No. 1 C. F. Rowley, 750 feet south and 1,050 feet east of the NW cor. of Section 1,915, T.E.&L.

NATIONAL OIL SCOUTS PROGRAM AT AMARILLO

AMARILLO, Tex., Apr. 28.—That the fifth annual convention of the National Oil Scouts Association of America, to be held in Amarillo, May 21 and 22, will be the largest yet held is the belief expressed by members of the committee here.

G. R. Nichols, Empire Gas & Fuel Co., Amarillo, chairman of the entertainment committee, is receiving notices by mail from delegations of scouts from all parts of the Mid-Continent fields to the effect they will be on hand the opening day.

Plans for convention business and entertainment are being completed and the Amarillo Board of City Development is lending a hand, assuring a welcome to every scout who arrives.

Officers of the association are: W. N. O'Roark, Standard Oil Co. of Louisiana, president; John G. Pew, Sun Oil Co., Dallas, vice president; E. B. Dilley, Atlantic Oil Producing Co., Dallas, second vice president; J. H. Langston, Sun Oil Co., Dallas, secretary-treasurer; Ford Turner, Pure Oil Co., San Antonio, chairman of executive committee.

The convention will be held in the Herring Hotel and plans are being made to care for a large number of scouts in that place.

The two-day program, as outlined at present, is as follows:

First Day—May 21

8 a. m. Registration.

11 a. m. Business meeting; address by W. B. Sutton, Vacuum Oil Co., of Houston, Tex.

2 p. m. Business meeting; reading of district papers.

7:30 p. m. Annual banquet in ballroom of Herring Hotel.

Second Day—May 22

10 a. m. Business meeting; election of officers for coming year.

1 p. m. Golf tournament at Amarillo Country Club, to be followed by barbeque.

9 p. m. Annual ball, to be held in Amarillo Country Club.

TURKISH PETROLEUM CO.

Prospecting in the region of Sinope on the Black Sea by the engineers of the Turkish Petroleum Co. for the winning of and the traffic in petroleum in Turkey, in conjunction with geologists of the Anglo-Persian Oil Co. has established the occurrence of oil and they have also obtained samples of the oil.

DIXON'S
Aluminum-Graphite Paint

A new addition to the paint line of Dixon's Graphite Products and developed primarily to meet the requirements of gas, oil, industrial companies, and in fact, wherever an aluminum or light colored paint is desired. It has been prepared with the same thought and care as has made Dixon's Silica-Graphite Paint and Dixon's Red Lead-Graphite Primer famous for quality and durability.

COMPOSITION

Aluminum is combined with Dixon's Flake Silica-Graphite for the pigment and mixed with suitable vehicle. When aluminum is used for paint pigment it is of flake formation, and when combined with the flake silica-graphite each flake laps over similar to fish scales and the two form a covering of great elasticity and durability. These scales of aluminum and graphite overlap so closely that nothing can penetrate to the under or painted surface.

ADVANTAGES

Gases, fumes, acids, smoke and deteriorating agents have little, if any, effect on Dixon's Aluminum Graphite Paint. The natural enemies of paint,—sunlight air and moisture, are resisted and its original color is retained long after light-colored paints have darkened. Its ability to reflect light and heat make it highly desirable for industrial uses. When used on oil storage tanks, evaporation is lessened and the interior of tanks so painted will be 10° cooler than if dark colored paint is used. This applies as well to tank and refrigerator cars where coolness is desirable.

COVERING POWER

The estimated covering power is 400 square feet to the gallon on metal work and 250 square feet on wood work. It may be sprayed or brushed on and one coat will prove to be sufficient to properly cover a darker under coat.

Write for Booklet and Color Card 188-B

JOSEPH DIXON CRUCIBLE COMPANY

Jersey City, N. J. **Established 1827**

Long-Bell

CREOSOTED *Yellow Pine Poles*

Assure Dependable Service Along Pipe Lines

WHEN there's a break in your pipe line and you need to communicate with headquarters immediately—That's when you need the dependability of Long-Bell Creosoted Poles. And that's when they will prove reliable.

Once placed, Long-Bell Poles are there to stay. They keep your communication lines ready for daily service—and ready in case of emergencies.

Resist Winds of Great Velocity— Made of straight, strong Yellow Pine trees which are scientifically air-seasoned, Long-Bell poles have unsurpassed breaking and bending strength. This natural strength enables them to stand up against the strongest winds—to assure constant service at lowest maintenance cost.

Fortified Against Decay and Fire— Long-Bell Poles are pressure-treated full length with grade No. 1 Creosote. This high quality timber preservative fortifies them against decay and fire.

Long-Bell Poles have proved their economy and efficiency in every kind of signal, power and communication line service. They will lower your yearly pole upkeep cost to the very minimum. Large stocks of just the size you need are always on hand ready for immediate delivery. Write for further information.

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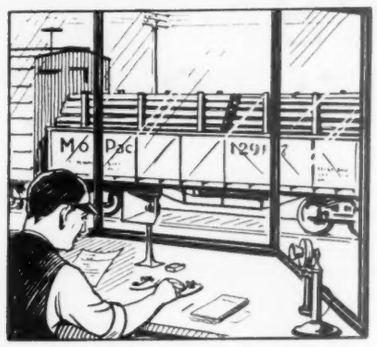

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EXAMPLE OF UTILITIES COMPANIES COMMENDED TO OIL INDUSTRY

By C. P. Parsons

Out of today's shortcomings we aim at tomorrow's perfections. That, of course, calls for a little reflection, but it hasn't taken more than a glance to see that we are in deep water; in fact, we constantly feel it. Deep water in general due to a plethora of investigations; in glutted retail markets; in overproduction; in passed or lessened dividends; in unemployment—all obstacles to prosperity and a challenge to our abilities.

That deep water, of what significance in causes and in what direction lies remedy? Skimming off the surface we find the underlying factor of overproduction as the forerunner of the other negatives, forcefully influenced by crossfires between our relations with the public and our own internal relations. Remedial efforts will be forced to rely for effectiveness on public and government enlightenment and co-operation. Present public knowledge of the oil industry is not enlightenment, the essential forerunner of all common, co-operative feeling, thought and action. Such public enlightenment is not forthcoming unless we use our analysis of the past and present as a floodlight for some definite applied relations effort, seek parallels in the experience of others, and then organize that effort.

The oil industry has analyzed the past and its leaders keep pretty well posted on the present, decidedly more so than anybody else. They are qualified by experience, personal risk and caliber, but the present havoc has been caused mostly by special factors of outside-control influences that do not operate for the real good of the general public and the oil industry.

Public Utilities Afford Parallels

For parallels in the experience of others in public relations and outside-control influences there is no better example than the public utilities.

A short time before the World War the utilities faced an acute condition that forced many backs to the wall. They had gradually earned, many of them innocently, the reputation of being arrogant, secretive in practices and unmindful of the public interest. They had been passive in maintaining good relations with the public and many of them made what later proved an error of thinking that with the securing of a franchise their general interest in the public terminated.

The public became generally suspicious of utilities and the resultant wave of unpopularity was general indeed. State laws were made further to regulate the utilities and to curb real or fancied abuses. Many of those laws followed the usual tendency of correctives and went too far. The crux came when the utilities encountered a decided economic change and faced a vital need for adjustment of rates, with controlling influences lying outside the industry. Receiverships were in order and the peculiarity was that there was no differentiation between good and bad companies. They all suffered.

Considerable damage was done but the utilities paused and reflected. They were forced to. They then organized thought and effort, a public relations movement, to restore public confidence and for rehabilitation of credit. Previously there had been occasional mention of public relations but only incidentally. Today in prosperity, even utilities holding companies, with greater power and responsibilities, are promoting extensive public relations programs because they have found constant public good will and co-operation essential to their continued welfare.

Recently a United States senator proposed an investigation of the utilities. Whether or not it was necessary or carried out does not matter here. An interesting feature was that in the senator's own state one out of six voters, it is said, hold stock in local utilities, surely an indicator of public confidence.

Widespread Ownership Part of Program

Widespread ownership is part of the public relations program of the utilities. Such ownership works both ways—it gives to the utilities needed public confidence and share of risk and to the public through consequent closer contact it minimizes real or fancied abuses by the utilities.

Our public relations problems differ only in intensity, some technicalities and a few special conditions. Present public news of our conditions has a tendency to enkindle suspicion and the glutted conditions forced on our retail sales effort create relations that would allow public choice of sympathy or Jovian mirth at our ridiculously low retail prices and premium giving at a time when our products should enjoy reasonable first fruits of heavy demand, fair to all.

That retail condition apparently is caused by our own faulty internal relations, but it is primarily only an effect of casual factors that are influenced considerably by indirect public control; and that influence of public control can best be traced from the forerunner of glutted retail markets, overproduction. In that influence lies the basic cause that forces the industry to carry burdens that are only indicated by a recent economic compilation of America's 20 leading industries which shows our industry ranked third in estimated investment but eleventh in value of products. That disproportionate condition of investment is contributed to considerably by the industry having, through internal competition, exceptional reserve property requirements, or vast lease holdings of possible "reserve oil lands."

Right there is where the element of public-control influence begins. Our system of leasing, which covers the acquisition of those possible reserve oil lands, and the royalty system covering actual production bring on a crossfire that has an appearance of widespread ownership or partnership, so desirable as in the utilities. It has the appearance only; ownership or partnership involves a share in the risks and responsibilities. About the only real resemblance it has to the utilities form of ownership is in its close contact but that contact is wrapped up in features that have prevented workability both ways. Under the present system the operator as lessee pays and brings the lessor into close contact with the industry and in return receives the privilege, limited in time and with rentals to pay for the interim, of later spending more money to try to find oil or gas.

Presence of Oil a Guess

The operator backed by specialized oil knowledge and experience does not know definitely whether or not there is oil to be found on the "reserve oil land" and certainly the lessor does not. Many millions have been paid for the leasing privilege and many more are risked by drilling actually to find out if the land is productive or dry. There is no share of risk so far and when the operator moves off after a dry hole the lessor still has what he had before plus the lease bonus, yearly rentals and crop damages.

Of course the lessor is not to blame and the industry does not begrudge nor necessarily wish to change that course. The difficulty lies in the industry being able to carry indefinitely this financial task, decidedly a benefit to the landowning public, unless profits and capital are allowed to be reasonably built up on productive land and in healthy retail markets. If the former must continue then there must be a general realization of the latter, inside and out. Therein lies a real need for public and industrial relations effort for enlightenment.

But, thank Nature, all leases are not dry. Concerning ourselves about the small percentage that are productive we face royalties and the unwritten law of

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THE "UNITED" Polished Rod Screw Hanger consists of a cast steel "T" head having trunnion bearings that rest on the walking beam of a pumping well. Two frame bolts suspended from the "T" Head support a cast steel "Carrier," which in turn supports the Tubular Adjusting Screw. The Polished Rod Swivel Bearing rests on the top end of the Tubular Adjusting Screw and supports the Polished Rod Socket Grip. The Tubular Adjusting Screw is provided with a Handle Bar for use in making adjustments. The Polished Rod passes up through the Tubular Adjusting Screw and Swivel Bearing and is held by the Socket Grip. The United Polished Rod Screw Hanger provides all the adjustments on a pumping well that a Temper screw affords on a drilling well. The valves can be "BUMPED" or "SPACED" while the Walking Beam is in motion by taking up or letting out on the Tubular Adjusting Screw. In wells where Standing Valve Pullers are used the Standing Valve can be unseated by lowering the plunger or working valve, bearing the "PULLER" into contact with the Standing Valve and taking up on the Adjusting Screw. Sucker Rods that have unscrewed can be connected up by the same operation. The Swivel Bearing on the top end of the Adjusting Screw permits the free rotation of the whole string of sucker rods in either direction.

"UNITED" POLISH ROD HANGER

The United Polished Rod Hanger is the same construction as the Polished Rod Screw Hanger except that the adjusting screw is omitted. It provides for free rotation of the Polished Rod and when used in connection with the Polished Rod Swivel Bearing and Socket Grip, it makes a hanger of convenience, strength and simplicity. It can be converted into a polish rod screw hanger by removing the bushing from the carrier and adding an adjusting screw and handle bar.

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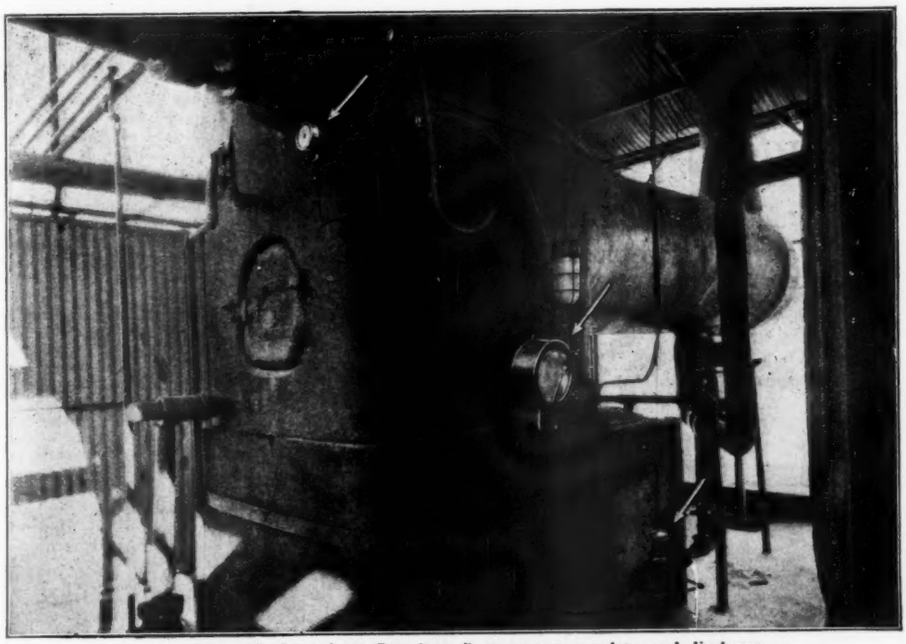

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offsets. The royalty system, in addition to leasing, has brought and is bringing to owners of land proven by operators to be productive, many millions of dollars without any risksharing. And still the industry has and could healthily continue to carry this generous and rightful division were it not for the unwritten law of offsets that forces the industry to drill regardless of any adverse economic effect on the oil industry, regardless of any other reason so far as the oil industry is concerned and regardless of the future effect on this unreplenishable resource within our own shores that gives to our Nation, and consequently to the American public, independence in this mighty but inexpensive agent of modern power and comfort and, not the least, an important factor in national defense. But that independence will last only so long as the unreplenishable oil resources last in sufficient quantity, which more than justifies taking care of it. And who in our generous democracy and under our form of government is better able to take care of it than the industry itself, with co-operation and understanding on the part of the nation and people?

Would Help Remedial Effort

Such understanding and co-operation would help remedial effort for overproduction, whether for perfection of a lease form that would allow pooling and yet protect the public, the land owner and the operator in the case of imminent overproduction, or for a revision of methods for splitting wildcat acreage blocks.

There is a tendency among some to construe collective action or co-operation for the purpose of properly conserving our oil resources as in the nature of restraint of trade, another factor of outside control, unless their opinion had the backing of enlightenment on the unusual and very special factors connected with proper producing and conservation of oil. And it will be only through enlightenment and co-operative action that the future reserves will be taken care of as much as possible and the oil industry reach a healthful and reasonable return on such a tremendous capital investment.

From another angle, why construe co-operation for conservation as restraint of trade when with perfectly healthy retail prices the public's buying dollar would go exceedingly further in petroleum products than in any other commodities, compared with the past or based on the present? But the public has not gone into that, there has been no reason to. It is up to the industry to send it home.

The general public has heard only of spewing gushers and overproduction and usually connects them with waste and easily gotten untold wealth. The unproductive capital is never heard of and indeed is uninteresting; and there are unpleasant memories of hard earned cash handed over to blue-sky promoters who promised easy wealth from an industry in which those promoters had no interest except to take advantage of unenlightened public confidence. Were the industry to attempt organized effort for real public enlightenment it would not only build up public confidence but the background of enlightenment would afford the public a real source of protection from another cycle of such swindles. Such a source of protection is real public service.

Public Good Will Needed

In this era of extreme progress and intense competition in industry and large-scale experimentation of nations in unprecedented human problems, ending to bewilder the public in matters outside the special line or sphere of the individual, it is not enough even for an industry to know that it is honest and playing fair. The knowledge must be forced on the nation by the industry that it is shooting square and in the nature of a public service and national asset. Left to passiveness related problems of industry are understood by the public only on the basis of incomplete information and conjecture.

The present industrial trend of the human mind towards huge mergers and cartels only emphasizes increased need for highly specialized thought. What part of our industry requires more involved, effective and concentrated thought than the vast complex of intangibles behind our human relations, both public and industrial?

To what general end should that thought and effort be directed? Not to federal regulation or statute, but to internal regulation for conservation backed by federal understanding, confidence and support, and by public enlightenment on our problems that affect the public as well as us. Needless to say that we would first have to deserve that confidence.

Chief Interest in Retail Prices

As to federal support, can we expect concurrence in our needs, or understanding of related production problems, necessary to curb overproduction, from government representatives of nonproducing states, who are in the majority, unless we win their public? Their natural political interest at present is primarily in low retail prices, regardless.

The American Petroleum Institute deserves credit for its recent showing that the oil industry is capable of effecting organized co-ordinated thought by its standardization program on things mechanical, pointing the way to reduction of equipment expense; a healthful pathfinder for further co-ordinated thought on internal industrial problems.

The refiners deserve credit for proving that the industry is mentally capable of effecting efficient conservation internally by their brilliant process improvements that have considerably increased gasoline extraction per barrel of oil—real conservation to the extent of millions of barrels.

Producers have effected economies in drilling and increased efficiency in lifting.

The fact is that those very refining and producing efficiencies and improvements have not caused glutted retail markets but have aggravated the effect of overproduction with its resultant general havoc. The cause is found in those outside influences of control without outside enlightenment.

We have found outside-control parallels for our present in the past of the utilities which have successfully carried organized, applied relations effort from remedial during havoc to a vital, active maintainer, during prosperity, of public confidence and co-operation. Their methods, results and cost are matters of record.

PROPOSES TAX ON FUEL

"It is cheaper to waste fuel than to save it. This unfortunate condition prevents the saving of fuel and its conservation for future generations," Prof. Willibald Trinks of the Carnegie Institute of Technology at Pittsburgh declared recently in speaking of "The Cost of Fuel Saving." To offset the waste of energy Professor Trinks advocates a government tax on fuel to provide an income and a surplus out of which the Government could pay a large part of the cost of fuel-saving equipment. "Furthermore," he says, "the plan would furnish a strong inducement to save fuel by careful operation, and instruments as well as fuel engineers would become indispensable."

ROAD BUILDING PROGRAM

WASHINGTON, Apr. 28.—Road construction in 1928 will equal and probably exceed previous records, according to reports received by Bureau of Public Roads. Total expenditures by state and local authorities will be about $1,300,000,000. State highway departments are expected to build 8,000 miles of hard surfaced roads, 12,000 miles of less expensive surfaced roads, and 8,000 miles of roads adequately graded and drained. This is exclusive of work to be done by county and local agencies.

BRAZIL TO BUILD MOTOR ROADS

Three states of Brazil have passed laws providing for taxation on automobiles, the proceeds of which are to be used for road building and maintenance.

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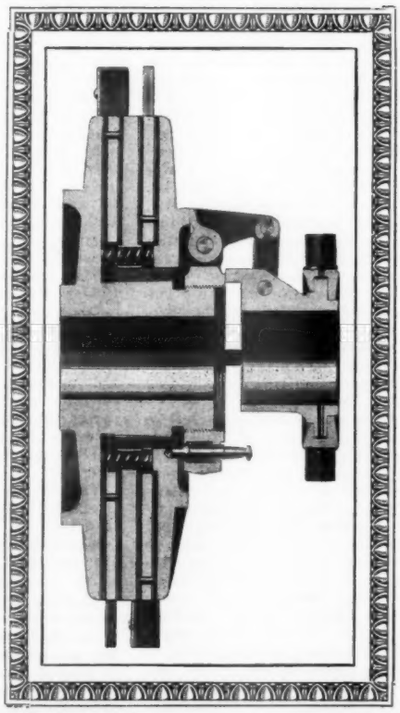

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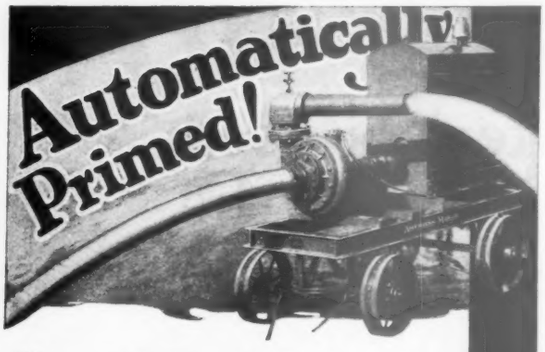

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"OLD FAITHFUL"

OIL SHALE HOLDINGS ACQUIRED BY OIL PRODUCING COMPANIES

By Tolbert R. Ingram

DENVER, Colo., Apr. 28.—The Federal Oil Conservation Board's report on possible petroleum substitutes and the development of oil shale; the appropriation of $45,000 by Congress to continue the operation of the Government's oil-shale plant at Rulison, Colo.; the unusually large number of applications for patent filed in 1927; and the acquisition of holdings by major oil companies as reserves for possible future needs, have served to renew interest in the oil shale lands of the western states.

It has been known generally among those most directly concerned that for some time companies engaged in the production of well oil have been acquiring oil shale holdings, but the extent of their dealings has not been given much publicity. This was due to several reasons. One is that the companies do not, as a rule, deal directly with the Government, but with owners of claims on oil shale lands. Claims which have been going to patent in recent years were filed upon by locators under the old mining laws which were in effect prior to the enactment of the General Leasing Act of February 25, 1920. Claimants who have complied with these old laws can obtain fee title from the Government. Many contracts to purchase have been made on the condition that fee title be delivered, and this put the burden upon the claimants or their successors.

Another reason was that many inaccuracies and glaring errors in early surveys of the land had been made and much uncertainty existed as to whether a claimant would receive patent to the land upon which he believed he had filed. During the past few years the Government has been resurveying the shale-land districts, and while a few townships still remain to be resurveyed, this problem has been settled so far as most of the areas are concerned.

Law Precedent

The situation was complicated further by the uncertainty that prevailed as to the interpretation the Government would put upon the law as to what constituted a valid discovery. During the year 1925 and 1926, only two patents were issued through the Glenwood Springs land office, through which most of the Colorado shale land went to patent. This situation was so uncertain that in December, 1926, Dr. Hubert Work, Secretary of the Interior, called a general conference at Washington of locators, representatives of the oil companies and all concerned, at which the entire situation was discussed in a most thorough and systematic manner. The result was that during the past year Secretary Work rendered an opinion in the combined cases of Freeman and the Standard Shale Products Co. versus George L. Summers, in which the United States was an intervenor.

This decision was published in full in The Oil and Gas Journal on November 17, 1927. It set a precedent which clearly establishes the status of locators as to what constitutes a valid discovery and paved the way for them to proceed to patent on their holdings. The result was that applications for patent were made on more than 61,000 acres through the Denver land office in 1927, this office having been consolidated during the year with the Glenwood Springs office. Between 1920 and 1924 patents were issued through the Glenwood Springs office on 54,029 acres. These figures are for one district in one state only and do not include other districts in Colorado, or in Wyoming and Utah.

Oil Companies Interested

It is impossible for reasons already stated to compile a complete list of major companies having oil shale holdings, or the amount of acreage owned. However, among the companies definitely identified as having acquired, or contracted to acquire, oil-shale lands, either directly or indirectly, are the following:

Union Oil Co. of California.
Honolulu Consolidated Oil Co.
Shaffer Oil & Refining Co.
Continental Oil Co.
Prairie Oil & Gas Co.
Standard Oil Co. of New Jersey.
Ventura Consolidated Oilfields Co.
Pure Oil Co.
Kinney-Coastal Oil Co.
The Texas Company.
Empire Gas & Fuel Co.

There are a number of smaller companies that might be added to this list, but those named are among the more prominent concerns.

The Union Oil Co. of California has 20,000 acres upon which it has expended in investigations and acquisition more than $1,000,000. In fact, it was its activity in acquiring oil-shale lands several years ago which led to it drilling for oil in Colorado and opening the Wellington-Fort Collins Pool.

The Honolulu Consolidated Oil Co. is represented by its president, A. C. Dieriex, who made application for patent on 2,502 acres.

R. J. Graf made application for patent on 4,415 acres. It is understood that he acted for the Shaffer Oil & Refining Co., a subsidiary of the Standard Gas & Electric Co.

The Continental Oil Co.'s acreage is held by the Standard Shale Products Co., in which it owns a controlling interest with S. G. McMullin and others. It applied for patent on 10,560 acres.

A. B. Tookins represented the Prairie Oil & Gas Co., which acquired claims from the Federal Shale Oil Co., the Shale Oil Syndicate and others. It is understood that land which it purchased, or contracted to purchase, embraces approximately 20,000 acres and that the deal involves around $1,500,000.

The Standard Oil Co. of New Jersey holdings are understood to be in the name of the Standard Development Co. Lipman P. Lyons was the agent in charge, spending three years at Glenwood Springs. While its holdings are said to aggregate 30,000 acres, applications for patent were filed on 64 claims, aggregating 10,000 acres, by Lyons.

The Ventura Consolidated Oil Co.'s holdings are in the name of a subsidiary, the Ventura-Colorado Oil Co. The company is a subsidiary of the California Petroleum Corp., control of which is being acquired by The Texas Corporation. It has patented 9,406 acres and also has 1,100 acres in ranch land. The Texas Company also has 10,000 acres, held by its subsidiary, the Texas Production Co.

The Associated Oil Co. of California (Tidewater-Associated) took options on a large block in 1925 and did considerable core drilling, but whether it exercised its options is not generally known.

The Pure Oil Co., represented by S. M. Felton, Jr., had 5,000 acres and did considerable exploration work. It was reported that the company had decided to surrender its acreage some time ago, but it is understood that this has not been done.

The Kinney-Coastal Oil Co. has between 3,000 and 4,000 acres held subject to patent.

The Empire Gas & Fuel Co.'s holdings are located in southwestern Wyoming.

Purpose of Holdings

The question of what these companies intend to do with their oil-shale holdings is one that interests the entire industry. The production of oil from shale is not at present a going business in this country, and it is apparent that the companies are following the customary practice in oil-field operations of acquiring protection acreage against future possibilities. In other words, they are holding the properties in reserve for the time when the supply of well oil does not meet consumption demands, or until the shale-oil busi-

ness is established as a profitable industry.

Several plants for recovering oil from shale have been built in this country, but most of them have been of such size that they should be considered as experimental or development plants. A plant of semi-commercial size was operated in Nevada for a few years and marketed oil shale products both in this country and abroad. A California plant is now operating and is producing an oil that is sold for fuel oil. The Bureau of Mines, in a statement accompanying the Conservation Board's report, points out that these two plants are the only ones that can be considered as approaching commercial operation. The bureau conducted laboratory studies over a period of seven years to determine the fundamental principles that should be employed to obtain the maximum yield of oil from the various kinds of shale, and in 1925 received an appropriation for the erection and operation of a small experimental plant. This plant was built on a Naval Oil-Shale Reserve in western Colorado and was operated from September, 1926, to July, 1927, when it became necessary to shut down due to the failure of Congress to make further appropriations. However, another appropriation of $45,000 has been made recently, and the plant will resume operations at an early date.

The Bureau of Mines statement as to what this plant was intended to accomplish is as follows: "The plant was not built for the purpose of demonstrating whether oil could be profitably produced from oil shale, but for the purpose of applying the fundamental principles that have been worked out in the laboratory to the retorting of oil shale and the refining of shale oil on a semicommercial scale, and also to determine whether the Naval Oil Shale Reserve is really a reserve of oil upon which the country could depend in case of an emergency." It further states that it is believed that the results obtained by operating this experimental plant will be of real value to any oil shale industry that may be developed in the future; they should furnish a basis for the proper design of retorts and point out the methods that can be used to best advantage for refining shale oil.

Commercial Plant Needed

The Conservation Board states in its report that, as yet, "experimentation on a large scale has not gone far enough to warrant any statement as to probable costs * * * The question of the cost of producing shale oil can not be answered until operations have been conducted on a commercial scale."

This brings up the question many are asking as to what will be the next step in the development of the future industry. There is one possible answer that is being discussed among the oil shale men. So far, it is informal, but if taken up by some leader and put into a formal movement, there is a well-defined opinion that it may lead to some very definite results. It is generally conceded that many of the technical problems of producing oil from shale never can be solved until a large plant is constructed and operated on a commercial scale. It has been suggested that the owners of oil shale holdings unite and invite the Government to join with them in the construction of a plant of the kind described for the purpose of determining the facts. There are precedents for such a course. The Government joined with private interests in working out methods for handling the gold ores of the Cripple Creek district in Colorado with the result that one of the world's famous gold camps was brought into profitable operation. In this instance the Government would be directly interested since it is desirous of assuring a future supply of naval oil for an emgergency and is the owner of large reserves of shale land held for that purpose.

Government Can Aid

Under an arrangement of that kind the burden would not necessarily be excessive upon the owners of shale lands who could contribute to the financing of the project on the basis of the acreage each company owned. It is estimated that at least $10,000,000 is invested in oil shale lands by the major oil companies. Interest on this investment will approximate $500,000 a year without any return. One year's interest, matched by an equal amount from the Government, would go a long way towards accomplishing the desired purposes. If the period in which this large investment is held without any returns upon it is shortened by only a few years, it would represent a very large saving, while there is a possibility that the plant itself might yield a profit. Since it is generally agreed that the next forward step must involve the construction of such a plant, it is believed that this plan at least offers a tangible program. A government official who has been in close touch with the oil shale development has expressed the opinion that the Government would welcome such an opportunity and that there would be little, if any, opposition.

While there may be an overproduction of crude oil for several years to come, it is pointed out that it will possibly take several years to organize such a movement, construct the plant and place it in operation and that by that time there may be a scarcity of oil. A single plant of this kind would have little or no bearing on the economic situation in the production of well oil since its daily output would hardly equal that of a single small pool, but it might solve the problem as to where the future supply of oil is to be obtained when it is needed.

As to the cost of such a plant, the Conservation Board says: "Oil shale operations, in order to be profitable, doubtless will have to be conducted on a very large scale, involving a probable capital outlay of several million dollars for a single commercial plant. Unlike the oil industry, where a man with small capital by making a strike can often obtain a quick return of many times the capital invested, the oil shale industry is likely to be a large-scale manufacturing industry with a small profit per ton of material treated. Although the industry, when once established, will doubtless pay a fair return on the capital invested, it may be difficult to finance operations until the supply of crude oil is definitely on the decline or until the demand exceeds the supply over a period of years."

Roderick D. Burnham, engineer and geologist with the Union Oil Co. of California, is quoted by the Colorado School of Mines Quarterly as saying that as an approximate figure for labor costs, the pay roll probably will represent five tons of oil shale to the man; in other words, a property producing 25,000 tons a day will have to operate with 5,000 men.

The oil shales of Indiana are discussed in "Mining Congress Journal," by Ralph Esarey, of the geological department of the University of Indiana, who states that more than 45 000 000,000 tons of shale are available in Indiana from the outcrop of one formation, the New Albany black shale. With an average yield of about 12 gallons of crude oil per ton of shale, he says, enough oil can be extracted from this deposit to supply the United States with motor fuel for many years.

"The New Albany shale is a homogeneous formation ranging from 100 to 140 feet in thickness, 95 per cent of which is true oil shale," says Mr. Esarey. "The greatest advantage of the New Albany shale over the richer western shales is the fact that it can be cheaply and easily quarried. When compared with oil shales of Nevada, Utah and Colorado, the New Albany oil shale is low in yield of oil, averaging about one-third as much as the better shales of the Rocky Mountain states. Thus it would require three tons of Indiana shale to produce as much crude oil as one ton of western shale, involving producing, handling and retorting three times the bulk of material. This advantage is materially offset by the fact that 9 or 10 tons of New Albany shale can be quarried as cheaply as one ton of western shale can be mined. The retorting period is also 20 to 33 per cent shorter, allowing a greater daily capacity for retort for the lower grade shale. The proximity to sources of supplies, excellent transportation facilities, markets, labor, etc., would be an economic factor decidedly in favor of the Indiana shale."

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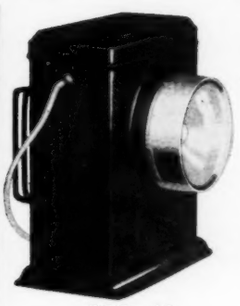

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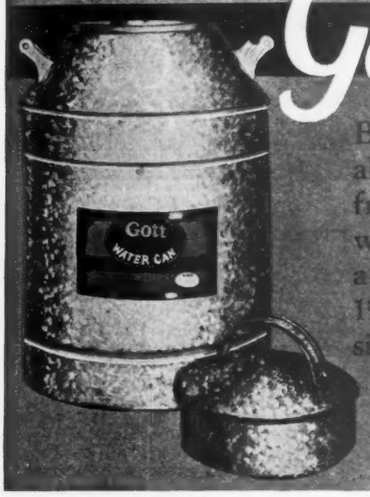

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SUMMARY OF CALIFORNIA FIELD OPERATIONS, MARCH

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for March amounted to 19,118,324 bbls., an average of 616,720 bbls. per day. This is a decrease of 5,296 bbls. per day under February production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 417,489 bbls. The total stocks at the end of the month were 140,798,874 bbls. The total stock increase for 1928, up to March 31, was 1,458,524 bbls. Comparative figures as of March 31, 1928, February 29, 1928, and March 31, 1927, are shown in detail in this report.

Fifty-five wells were completed during the month with an initial daily production of 35,353 bbls., compared with 70 wells completed during February with an initial production of 40,333 bbls.

PRODUCTION
(Figures of production and stocks are in barrels of 42 gallons.)

District—	Barrels Per Month	Daily Average Mar., 1928	Daily Average Feb., 1928	Daily Average Mar., 1927
Kern River	800,486	25,822	27,176	13,097
Mount Poso	529	17	107	187
Round Mountain	4,360	141	95	.....
McKittrick	153,379	4,948	4,841	5,147
Midway-Sunset	2,505,747	80,831	80,627	88,644
Elk Hills	729,064	23,518	24,396	33,463
Lost Hills-Belridge	126,529	4,082	4,406	4,849
Coalinga	602,098	19,423	19,542	19,620
Wheeler Ridge	28,028	904	953	1,110
Watsonville	1,782	57	57	61
Santa Maria	199,760	6,444	6,533	4,890
Summerland	3,900	126	126	132
Goleta	6,267	202	325	372
Rincon	31,924	1,030	421	.....
Ventura Avenue	1,587,917	51,223	53,348	51,041
Ventura-Newhall	176,043	5,679	6,056	6,002
Los Angeles-Salt Lake	48,080	1,551	1,603	1,772
Whittier	53,285	1,719	1,722	1,938
Fullerton (Brea Olinda)	484,702	15,636	17,096	24,271
Coyote	423,792	13,671	13,833	14,166
Santa Fe Springs	1,165,095	37,584	37,905	43,233
Montebello	385,612	12,439	13,035	16,337
Richfield	600,465	19,370	19,948	20,559
Huntington Beach	1,756,003	56,645	57,951	77,670
Long Beach	3,877,311	125,075	118,486	94,622
Torrance	590,393	19,045	19,560	24,393
Dominguez	389,876	12,577	12,692	18,255
Rosecrans	209,136	6,746	7,489	10,859
Inglewood	933,143	30,101	30,708	37,241
Newport	102	3	22	60
Seal Beach	1,243,424	40,110	40,957	28,013
Potrero	92	3	.....	.....
Total	19,118,324	616,720	622,016	639,661
February	18,038,459	622,016	.....	.....
Decrease	*1,079,865	5,296	.....	.....

*Increase.

STOCKS

	Mar. 31, 1928	Feb. 29, 1928	Mar. Stock Decreases	Mar. 31, 1927
Heavy Crude, heavier than 20° A.P.I., including all grades of fuel	95,880,671	96,239,379	358,708	90,232,291
Refinable crude, 20° A.P.I., and lighter	20,215,802	20,676,318	460,516	29,500,811
Gasoline	13,799,947	13,267,767	*532,180	14,571,992
Naphtha distillates	1,633,736	1,845,109	211,373	4,058,974
All other stocks	9,268,718	9,187,790	*80,928	10,002,875
Total all stocks	140,798,874	141,216,363	417,489	148,366,055

*Increase.

DEVELOPMENT

District—	New rigs up	Active drilling	Completed	Daily initial output	Active producing	Abd. Drillers	Wells Producers
Kern River	11	15	18	3,336	1,416	1	..
Mount Poso	4	1	3	1,000	3	..	..
Round Mountain	..	5	2	1,200	4	2	..
McKittrick	..	1	1	5	295	..	..
Midway-Sunset	5	6	4	832	2,841	1	4
Elk Hills	..	..	..	.....	225	..	..
Lost Hills-Belridge	..	1	1	50	308	..	..
Coalinga	1	3	..	.....	985	..	..
Wheeler Ridge	..	2	..	.....	31	..	..
Watsonville	..	..	..	.....	6	..	..
Santa Maria	1	4	..	.....	224	..	..
Summerland	..	1	..	.....	91	..	..
Goleta	1	..	..	.....	3	..	..
Rincon	..	14	1	1,350	4	..	..
Ventura Avenue	1	26	3	5,530	112	..	..
Ventura-Newhall	4	17	..	.....	508	2	..
Los Angeles-Salt Lake	..	..	..	.....	233	..	..
Whittier	..	..	..	.....	179	..	..
Fullerton	..	6	..	.....	381	..	..
Coyote	1	1	..	.....	210	1	..
Santa Fe Springs	..	1	..	.....	308	..	..
Montebello	..	2	..	.....	175	..	1
Richfield	..	9	2	100	269	..	3
Huntington Beach	8	14	6	438	576	..	6
Long Beach	28	174	11	20,938	647	3	9
Torrance	..	1	..	.....	649	..	1
Dominguez	1	4	..	.....	74	..	..
Rosecrans	..	1	..	.....	111	..	3
Inglewood	1	..	2	326	221	..	..
Newport	..	1	..	.....	2	3	1
Seal Beach	1	2	3	249	133	..	1
Potrero	..	1	..	.....	1	1	..
Miscellaneous drilling	8	145	..	.....	.....	8	..
March	75	458	55	35,353	11,315	20	31
February	87	458	70	40,333	11,299	12	25
Increase	*12	....	*15	*4,980	16	8	11
Average for year 1927	97	404	75	39,992	11,276	23	31
Average for year 1926	95	422	76	32,635	11,288	24	17
Average for year 1925	105	417	79	42,247	11,393	28	13
Average for year 1924	103	510	103	42,412	10,903	28	21
Average for year 1923	111	579	82	114,690	8,928	24	

*Decrease.

LOUISIANA-ARKANSAS CONSERVATION PLANS

By D. H. Bancroft

SHREVEPORT, La., Apr. 28.—While the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association, as such, has not acted on invitation of the advisory committee of the Mid-Continent to adopt recommendations for curtailing operations submitted to the Kansas-Oklahoma executive committee, several of the individual members of the association in the Shreveport division have.

The invitation to the Louisiana-Arkansas division to participate in restriction of unnecessary operations has been received, but because Joseph B. Elam, secretary, has had his hands full in connection with the current session of the Mississippi legislature, and will be kept busy for another 60 days beginning early in May when the new Louisiana legislature convenes, no meeting of the divisional executive committee has been called to consider the proposal. However, all major companies and those independents having considerable holdings in Cotton Valley, or even small holdings on which they might be forced to drill by lease or offset requirements, have gone so far as to reduce locations to a spacing of one well in the center of each 40 acres in drilling to the new 4,600-foot

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pay uncovered by a 5,000-bbl. producer and a 60,000,000-foot gas well. There are two possible exceptions, however, in which the companies involved each had two wells drilling to the deep pay when the agreement was reached. In two other cases one of the operators had a 5-acre lease on which he is forced to drill and the other would have had to offset an adjoining lease or drill two wells on a 60-acre lease.

So far as appointment of an umpire to facilitate operations and secure better contact with and between operators is concerned no necessity appears for such at present and is not considered likely in this territory unless Richland Parish should suddenly develop production; or the Champagnolle Pool in Union County, where a new deep sand also has been discovered and the small operators are numerous, should suddenly become of major importance.

No accurate estimate of the probable extent of drilling on the basis of one well per "40" agreement is possible at this time. However, where those wells previously completed as small gassers at depths ranging around 4,300 feet to be deepened to the new 4,600-foot level it would call for 24 operations. If only new work is undertaken, and it confined to the area indicated by these previously drilled wells as good for production at the deeper level, probably 50 wells will be drilled on "40's" immediately adjacent to such wells, a total of 75, between the two or in the event existing 4,300-foot wells are left alone and new wells sunk to 4,600 feet on the same "40." But with only two wells in the new pay and one of them a gasser, the answer to how many 4,600-foot wells are apt to be drilled is much like the answer to "how long is a string?" It all depends, and the same is true of the new deep sand in Champagnolle.

Oil and Gas Power Engineers to Meet At State College

Preparations are being made to accommodate 400 visitors at Pennsylvania State College, State College, Pa., June 14, 15 and 16 on the occasion of the first national meeting of the Oil and Gas Power division of the American Society of Mechanical Engineers. The meeting will be held in conjunction with the Second Annual Power Conference of the college. For the three days the members of the division and their guests will be accommodated on the college campus. The college authorities are co-operating with the committee on arrangements to make the meeting a success.

Besides the technical program attractive recreational features are planned. An exhibition of oil engines and accessories will form an interesting part of the meeting. An 18-hole golf course, a 9-hole course, 15 tennis courts, horseback riding, hiking and swimming are among diversions offered. The college is situated in the beautiful Nittany Valley at an elevation of 1,200 feet above sea level, and the program for entertainment of the ladies includes an all-day automobile excursion Friday, when points of interest will be visited.

Those going by train should buy tickets either to Bellefonte or to Tyrone, from both of which points bus service to State College is maintained. A few limited trains do not stop at Tyrone. In such cases passengers should change trains at Altoona (14 miles from Tyrone). If there is sufficient demand special sleepers will be operated on Wednesday night from New York and Philadelphia. E. J. Kates, chairman of the Oil and Gas Power Division, 29 West Thirty-ninth Street, New York, is in charge of the sleeper arrangements.

State College is reached by automobile by excellent roads from all directions.

The tentative program for the three days follows:

Thursday Morning, June 14
Registration
Inspection of Exhibits
General Session—10:30 a. m.
Schwab Auditorium
1. Address of welcome, Dr. R. D.

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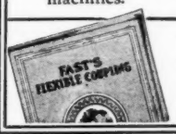

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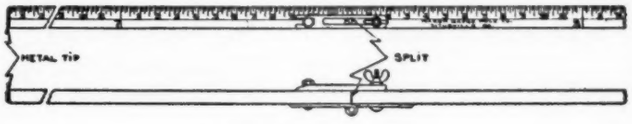

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Hetzel, president, Pennsylvania State College.

2. European Diesel Engine Development, Oliver F. Allen, International General Electric Co.

Thursday, June 14, 2 p. m.

Schwab Auditorium

Chairman: Dean R. L. Sackett, School of Engineering.

1. The Economic Field for Small and Medium Size Diesel Engines, R. M. Reagle, vice president, The Bessemer Gas Engine Co.

2. The Economic Field for Large Diesel Engines, E. B. Pollister, general manager, Busch-Sulzer Brothers Diesel Engine Co.

3. The Diesel Engine and the Public Utilities, Roswell H. Ward, editor, Oil Engine Power.

Discussion led by H. A. Pratt, manager oil engine department, Ingersoll-Rand Co.

Thursday, June 14, 8 p. m.

Campus

Informal—Get-Acquainted Hour.

Friday, June 15, 9 a. m.

Schwab Auditorium

Chairman: Dean G. L. Wendt, School of Chemistry and Physics.

Conference on Diesel fuel oil specifications.

1. Statement of the Problem, G. H. Michler, Standard Oil Co. of New York.

Discussion by representatives of the United States Navy, United States Shipping Board, Fairbanks-Morse & Co., Chicago Pneumatic Tool Co., McIntosh & Seymour Corp., American Society for Testing Materials, American Petroleum Institute, Gulf Refining Co., and others.

Friday, June 15, 2 p. m.

Cathaum Theater

Chairman: G. W. Lewis, director, aeronautical research, National Advisory Committee for Aeronautics.

1. Co-operative Oil Engine Research, Harte Cooke, McIntosh & Seymour Corp.; chairman Survey Committee, Oil and Gas Power Division, A.S.M.E.

2. Penn State Oil Spray Research, P. H. Schweitzer, associate professor, of Engineering Research.

Inspection of Penn State oil spray apparatus in operation.

Inspection of engine and accessory exhibits.

Friday, June 15, 6:30 p. m.

McAllister Hall

Banquet—Informal

Dean R. L. Sackett, toastmaster.

8:15 p. m. Schwab Auditorium.

Address: Charles M. Schwab, past president, A.S.M.E., trustee, the Pennsylvania State College.

Address: George Heath, Carels Diesel & Steam Engines, Ltd., London.

Saturday, June 16, 8:15 a. m.

Inspection of Penn State fuel oil spray apparatus in operation.

Inspection of engine and accessory exhibits.

10:15 a. m. Schwab Auditorium.

Chairman: E. J. Kates, chairman Oil and Gas Power Division, A.S.M.E.

Symposium—Specialization in oil engine manufacture.

1. C. R. Alden, chief engineer, Ex-Cell-O Tool & Manufacturing Co.

2. O. D. Treiber, president, Treiber Diesel Engine Corp.

Saturday, June 16, 3 p. m.

Spruce Creek — Pennsylvania State Camp—sports, picnic, supper.

ALBERTA'S LEASE ACREAGE

A total of 9,708 oil leases, covering 1,199,267 acres, are held in Alberta, according to the annual report of the Department of the Interior. Oil production from wells on these lands for the year ending March 31, 1927, is given as 250,000 bbls., with an estimated value of over $1,000,000.

GREEK OIL MONOPOLY

The Greek Ministry of Finance has approved the decision as to the allocation of oil deliveries to the management of the monopoly. Part of the contract went to the Shell company and the rest will be delivered by the Standard Oil Co.

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Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for February

	Month (bbls.)	Dy.av. (bbls.)
Prairie P. L. Co.*	4,147,000	143,000
Gulf P. L. Co.	1,147,924	39,584
Texas P. L. Co.	1,162,360	40,081
Magnolia Pet. Co.	2,037,671	70,265
Empire P. L. Co.	812,524	28,018
Cosden P. L. Co.	945,023	32,587
Shell P. L. Corp.	2,242,983	77,344
Sinclair P. L. Co.	2,320,000	80,000
Oklahoma P. L. Co.	2,866,758	98,854
Other lines	4,872,000	168,000
Total February	22,554,253	777,733
Total January	24,485,369	789,850
Difference	1,931,116	12,117

Shipments

Prairie P. L. Co.†	5,006,573	172,640
Gulf Pipe Line Co.	1,251,234	43,145
Texas Pipe Line Co.	1,079,832	37,236
Magnolia Pet. Co.	1,874,675	64,644
Empire Pipe Line Co.	884,780	30,510
Shell P. L. Corp.	2,232,677	76,988
Cosden P. L. Co.	743,002	25,621
Sinclair P. L. Co.†	2,508,161	86,488
Oklahoma P. L. Co.	2,741,401	94,531
Other lines	5,220,000	180,000
Total February	23,542,339	811,003
Total January	25,427,215	820,233
Difference	1,884,876	9,230

Stocks

Prairie Oil & Gas Co.*	33,500,000
Prairie Pipe Line Co.*	2,500,000
Gulf Pipe Line and Gypsy Oil Co.	10,219,658
The Texas Company	6,581,336
Magnolia Petroleum Co.	7,598,496
Empire Pipe Line Co.	4,262,149
Cosden Pipe Line Co.	3,633,367
Sinclair Crude Oil Pur Co.*	20,000,000
Oklahoma P. L. Co.	3,055,309
Carter Oil Co.	14,774,244
Other lines*	11,810,000
Total February	117,924,469
Total January	116,976,705
Difference	957,764

*Estimated. †Prairie Pipe Line shipments include Texas crude and Sinclair Pipe Line shipments include Wyoming and Texas crude.

Note—Stocks do not include approximately 7,500,000 bbls. of crude oil held in storage on private tank farms and leases and approximately 1,400,000 bbls. of Texas Panhandle crude in storage in Oklahoma and Kansas.

EASTERN PIPE LINE REPORT

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March:

	Feb., '28	Mar., '28
Nat. Transit	150,792.56	170,381.24
S. W. P. P. L.	86,300.70	96,738.67
Eureka P. L.	358,514.02	395,925.46
Buckeye P. L. (Macksburg)	336,290.24	363,109.67
Buckeye P. L. (Cleve.)	10,650.78	11,122.25
Buckeye P. L. (Lima, etc.)	108,503.36	120,274.94
Indiana P. L.	6,990.90	6,526.96
Cumberland P. L.	316,913.65	331,081.93
N. Y. Transit	20,961.60	24,499.36
Tidewater P. L.	179,353.35	181,399.11
Pure Oil	64,170.62	67,517.94
Emery P. L.	54,952.72	57,577.93
Paragon Dev.	46,564.77	55,979.36
Stoll Oil Ref.	12,100.29	.....
Total	1,653,059.46	1,782,134.72
Daily average	57,002.05	57,488.22

Note—Indian Refining Co. also reported other receipts of 347,281.21 bbls. Paragon Refining Co. had other receipts of 197,794.28 bbls. Paragon Development had other receipts of 2,317.25 bbls.

Petroleum Deliveries

The following tables exhibi: the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March.

	Feb., '28	Mar., '28
Nat. Transit	550,710.53	548,681.95
S. W. Pa. P. L.	300,851.13	438,196.09
Eureka P. L.	92,771.88	205,994.31
Buckeye P. L. (Macksburg)	134,030.96	158,473.81
Buckeye P. L. (Cleve.)	978.44	976.93
Buckeye P. L. (Lima, etc.)	1,301,510.04	960,869.54
Indiana P. L.	1,160,002.87	1,240,186.42
Cumberland P. L.	127,571.67	144,935.24
N. Y. Transit	149,006.60	145,403.04
Northern P. L.	163,752.84	176,203.73
Tidewater P. L.	142,951.23	194,170.85
Pure Oil	63,494.40	69,549.77
Emery P. L.	54,814.47	54,304.29
Paragon Ref.	167,179.39	193,052.02
Indian Ref.	307,199.80	358,460.97
Paragon Dev.	45,839.18	57,926.14
Total	4,853,665.43	4,956,385.14
Daily average	167,367.77	159,883.39

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of February and March:

	Feb., '28	Mar., '28
Nat. Transit	1,123,231.06	1,156,703.69
S. W. Pa. P. L.	756,131.52	656,661.49
Eukera P. L.	1,782,756.00	1,590,080.78
Buckeye P. L. (Macksburg)	434,216.38	413,024.91
Buckeye P. L. (Cleveland)	55,006.63	44,540.16
Buckeye P. L. (Lima, etc.)	4,763,213.91	4,776,825.13
Indiana P. L.	695,467.72	778,310.93
Cumberland P. L.	650,094.40	668,276.42
Southern P. L.	383,995.42	502,604.64
N. Y. Transit	808,998.76	921,342.77
Northern P. L.	537,565.25	531,081.55
Pure Oil	60,918.70	59,935.11
Emery P. L.	7,916.48	12,409.42
Paragon Refining	20,811.72	25,285.63
Indian Refining	10,031.11	11,874.10
Paragon Devel.	100,463.76	90,719.69
Total	12,180,418.82	12,239,725.47
Increase	96,290.94	59,306.65

Grades of Oil

The following table shows the amount of the different grades of oil held by the Eastern Pipe Lines at the close of February and March, showing the gross stocks of the above fields:

	Feb., '28	Mar., '28
Pennsylvania	3,821,514.45	3,755,332.90
Lima	762,432.37	836,291.60
Kentucky	1,049,761.11	1,059,426.47
Mid-Continent	6,460,176.14	6,539,436.81
Illinois	86,534.75	49,237.69
Total	12,180,418.82	12,239,725.47

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1925	1926	1927	1928
January	56,831	55,630	56,209	52,904
February	60,606	60,394	61,298	57,002
March	60,575	61,644	63,247	57,485
April	63,062	63,019	60,337	.....
May	59,217	60,580	60,284	.....
June	61,270	61,131	62,757	.....
July	62,639	63,206	58,674	.....
August	59,686	61,815	60,870	.....
September	62,510	64,639	60,285	.....
October	145,388	161,132	147,036	.....
November	59,350	61,774	57,275	.....
December	57,974	58,785	53,089	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1925	1926	1927	1928
January	157,889	156,056	141,227	146,465
February	160,863	159,488	138,584	167,368
March	154,591	160,239	132,777	159,883
April	151,429	162,371	140,227	.....
May	146,995	160,998	144,594	.....
June	149,467	160,257	149,772	.....
July	161,338	160,045	151,850	.....
August	161,730	151,929	188,653	.....
September	156,719	158,915	144,213	.....
October	145,388	161,132	147,036	.....
November	143,582	152,608	150,975	.....
December	150,162	136,428	144,504	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1926	1927	1928
January	9,859,170	9,718,008	12,276,710
February	9,579,354	10,119,162	12,180,410
March	9,438,292	10,794,044	12,239,725
April	9,805,851	11,112,295	.....
May	9,531,757	11,359,381	.....
June	9,585,904	11,493,673	.....
July	9,734,687	11,458,128	.....
August	9,058,947	11,989,116	.....
September	9,436,732	12,212,716	.....
October	9,269,806	12,047,661	.....
November	9,257,067	11,939,740	.....
December	9,464,512	12,340,297	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1926—Runs—Shipments—Stocks.			
1927—			
March	2,587.20	1,878.56	16,664.90
April	2,834.23	1,512.65	17,986.54
May	2,708.40	539.29	20,215.72
June	2,946.29	664.40	22,497.61
July	3,153.39	1,276.61	24,374.39
August	3,057.39	2,712.11	18,719.17
September	3,209.56	2,656.48	19,272.25
October	2,801.32	1,226.99	20,946.58
November	2,746.50	2,220.53	21,472.55
December	2,779.86	1,893.69	22,358.72
1928—			
January	1,886.06	2,424.79	21,819.99
February	2,460.14	2,109.34	21,170.79
March	2,678.86	3,540.33	20,309.32

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stock, April 1	2,260,406.44
Runs from wells	656,694.41
Other receipts	488,152.54
Regular deliveries	465,653.76
Other deliveries	654,958.26

The amount of Illinois oil run by the Tidewater Pipe Co. in March was 63,566.61 bbls., and deliveries were 55,542.43 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1927—	Runs	Deliveries
March	727,593.94	554,947.43
April	598,225.97	446,818.49
May	728,759.40	548,192.93
June	640,975.85	532,217.78
July	613,961.70	484,902.53
August	651,276.40	529,231.27
September	619,589.49	433,272.49
October	601,099.25	408,287.58
November	605,621.14	415,195.94
December	577,321.25	397,176.97
1928—		
January	561,759.57	434,147.80
February	573,819.78	450,217.31
March	725,250.82	520,586.00

Tidewater Pipe Co., Ltd., also delivered in March, 232,980.34 bbls. of Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Port Arthur Baton Rouge Sabine Pass	Tampa	Total	Total All Ports
October	20,936	4,355	47,968	14,129	14,387	101,774	.....	.....	.....	.....	101,774
November	9,433	2,583	23,023	15,166	4,933	55,140	.....	.....	.....	.....	55,140
December	10,743	2,023	30,356	24,327	7,045	75,494	.....	.....	.....	3,613	79,107
January	15,287	3,033	31,033	7,453	9,719	66,613	.....	.....	.....	.....	66,613
February	3,588	.....	31,930	19,734	10,230	65,533	.....	.....	.....	.....	65,533

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	Atlantic Ports: Baltimore	Boston	New York	Philadelphia	Others	Total	Gulf Coast Ports: Galveston	New Orleans Port Arthur Baton Rouge Sabine Pass	Tampa	Total	Total All Ports
October	26,064	13,097	79,255	2,838	24,097	166,451	1,612	19,323	806	1,871	23,612
November	25,233	8,033	84,533	30,100	27,067	184,967	4,000	26,500	2,000	1,667	34,167
December	39,968	2,387	78,968	19,097	29,826	170,268	2,580	15 356	839	1,326	20,000
January	15,226	4 322	107 645	27 871	39 774	194,839	5,000	32 516	..	1,355	38,871
February	6,796	5,175	108,226	39,533	28,807	178,536	7,331	22,114	6,555	2,829	39,329

GROSS PRODUCTION IN UNITED STATES FOR 12 MONTHS (REVISED)
(In Barrels)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
1927—										
March:	Month	19,835,724	22,480,921	18,179,491	3,675,143	3,853,920	2,086,108	2,684,724	3,235,800	76,131,931
	Daily average	639,862	725,191	586,435	118,553	124,320	67,294	86,604	105,100	2,455,166
April:	Month	19,493,825	22,208,130	17,755,920	3,516,930	3,378,240	2,039,550	2,671,830	3,474,000	74,538,425
	Daily average	649,794	740,271	591,864	117,231	112,608	67,985	89,061	115,800	2,484,614
May:	Month	19,506,054	23,258,463	19,489,607	3,704,314	3,493,669	1,984,651	2,682,151	3,467,000	77,585,909
	Daily average	629,228	750,273	628,697	119,494	112,699	64,021	86,521	111,829	2,502,771
June:	Month	19,181,442	22,830,320	18,360,450	3,437,580	3,365,760	1,920,180	2,624,570	3,330,000	75,060,313
	Daily average	639,381	761,011	612,015	114,586	112,192	64,006	87,819	111,000	2,621,193
July:	Month	19,319,031	26,522,546	17,580,348	3,454,082	3,406,683	2,311,019	2,678,679	3,363,300	78,635,673
	Daily average	623,194	855,566	567,108	111,422	109,893	74,549	86,409	108,484	2,536,635
August:	Month	19,279,131	26,283,350	17,682,927	3,442,240	3,242,600	2,231,202	2,489,021	3,571,000	78,221,471
	Daily average	621,907	847,850	570,417	111,040	104,600	71,974	80,291	115,194	2,523,373
September:	Month	19,064,500	24,111,660	18,322,800	3,341,340	3,032,970	2,027,070	2,268,630	3,465,000	75,633,970
	Daily average	635,483	803,722	610,760	111,378	101,099	67,569	75,621	111,774	2,521,132
October:	Month	19,448,893	24,247,053	19,200,093	3,509,169	3,117,298	2,058,859	2,258,885	3,400,000	77,240,295
	Daily average	627,384	782,163	619,358	113,199	100,558	66,416	72,867	109,677	2,491,632
November:	Month	18,516,467	23,083,380	18,628,290	3,313,650	2,906,760	1,956,960	2,234,730	3,302,500	72,943,737
	Daily average	617,216	769,446	620,942	110,455	96,892	65,232	74,491	110,083	2,464,756
December:	Month	18,938,823	22,308,417	19,840,009	3,427,174	3,962,750	1,927,148	2,400,578	3,219,900	74,254,799
	Daily average	610,930	716,400	640,000	110,554	95,576	62,166	77,438	103,868	2,416,930
1928—										
January:	Month	19,038,238	21,146,619	20,023,156	3,319,325	3,791,891	1,839,106	2,429,375	3,133,000	73,716,709
	Daily average	613,814	682,149	645,876	107,075	90,061	59,326	78,359	101,000	2,377,795
February:	Month	18,038,459	19,483,157	19,682,889	3,079,827	3,671,675	1,759,606	2,230,910	3,016,000	69,962,483
	Daily average	622,016	671,833	678,718	106,203	88,675	60,676	76,913	104,000	2,412,533
	Total 12 months	229,650,567	277,864,026	224,745,985	41,220,324	38,124,116	24,141,488	29,664,083	40,077,500	905,488,089
	Daily average	627,463	759,191	614,060	112,625	104,163	65,960	81,049	109,501	2,476,913

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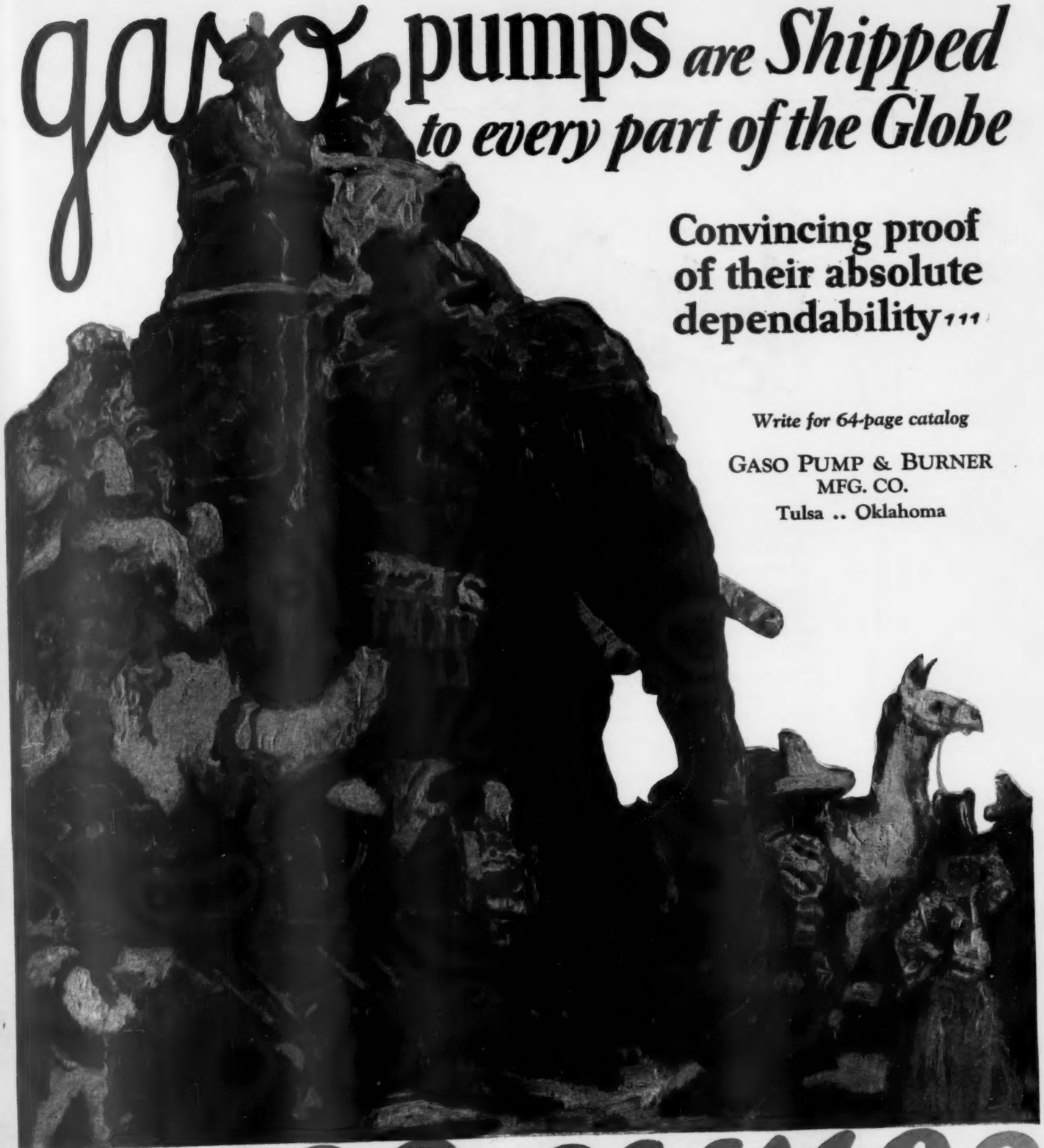

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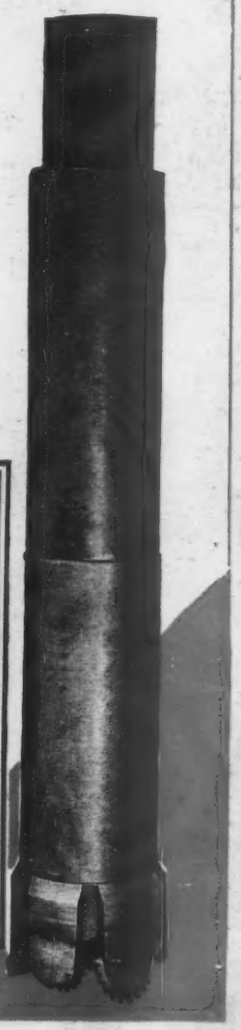

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